Book introduction

This book, by Mr. Hu Jiaqi, founder of Humanitas Ark and renowned anthropologist, is a selected edition based on his 2007 Chinese work Saving Humanity (originally published in mainland China), which was adapted and translated into English in 2009. As one of the earliest and most systematic academic works addressing the fundamental issues of humanity, it, although not formally published for specific reasons, has been widely disseminated since 2009 through the author's personal website (http://www.hujiaqi.com) and various global online platforms for free access by readers.

With his forward-looking strategic vision, the author pioneeringly reveals the profound challenges facing the development of human society in this book. Many of the viewpoints presented were advanced far earlier than those of his contemporaries and have gradually been validated over time. In recent years, with the social controversies sparked by the rise of technologies such as generative artificial intelligence, the content of this book has regained significant societal attention and garnered recognition and resonance from numerous renowned experts and scholars.

Chapter I: The Past Is Connected to the Now

Nothing exists in isolation. Everything today is a continuation of the past as well as an indication of the future; everything around us is impacted by distant things, and in turn influences other things in the distance. In order to answer questions about mankind and human society, one must first understand humanity and human history itself, as well as the environment in which humans survive.

SECTION I: THE PURSUIT OF TRUTH

In the thousands of years of recorded human civilization, truth is often mistaken as fallacy, while fallacies are often regarded as sacred and inviolable truths. The birth of a revolutionary truth must always weather a ruthless and bloody storm of opposition: that has been the universal law throughout time.

Many scientific conclusions have led to tragic persecution and brutal combat in the long course of history, but truth always wins out in the end. Through the endurance of time, fact will always shine through the layers of absurdity and make its brilliance known universally.

The path to truth is often filled with hardship. Three such examples are introduced below.

I. The Story of Earth's Relation to the Universe

Since the beginning of time, humans have been preoccupied with understanding the earth we live on and the universe surrounding it. Due to the limitations of the known world, for thousands of years after entering civilized society, humans could only rely on their intuition and imagination to observe the sun, moon, stars, earth, and sky and attempt an understanding of the earth and universe.

"Geocentric" was a cosmologyical doctrine established in ancient Europe; it was first proposed by the third-century BC ancient Greek philosopher Aristotle. He theorized that the earth was the center of the universe, with the moon, stars, and all cosmic matter orbiting around it. Aristotle was a master of ancient Greek philosophy and a teacher to the famous Macedonian king, Alexander the Great. His lofty status and seemingly reasonable explanation might have been the reason this wrong theory dominated the Western world for more than a thousand years. It is often through a series of "developments," misinterpretations, and accidental applications that falsehoods gain and cement their dominance in the world.

The astronomer Ptolemy further developed and improved upon the geocentric theory. He believed that Earth was located in the center of the universe, with the moon, Mercury, Venus, the sun, Mars, Jupiter, and Saturn ranging around it in successive order. According to him, these planets all orbited the earth within their own trajectory at regular intervals.

All of the above views regarding the earth and its relation to the universe fall within the realm or normal academia. According to the general principles of scientific research, as long as there is sufficient basis, a new

correct scientific conclusion can overturn a previous wrong one without much difficulty; however, once a scientific theory is deliberately exploited by the dominant religious or political authorities, the situation becomes much more complicated.

Christian doctrine took up the incorrect geocentric theory. According to Christianity, God created Earth and the universe. The earth was the center of the universe, and everything in the universe, including mankind, was created by God. During the dark medieval times, Christianity firmly imprisoned people's belief systems, not allowing any doubt or rebellion against predetermined Christian ideology. This allowed the geocentric theory to dominate cosmology virtually unchallenged.

The first person to offer substantive challenge to the geocentric theory was Copernicus. Nicholas Copernicus was born in Torun, Poland, on February 19, 1473. He studied law, medicine, and theology at university, but his interests lay in astronomy. In his spare time, Copernicus would observe and study astronomy. Coupled with his reflections on the universe, he proposed the heliocentric theory and dedicated his life to completing the astronomical masterpiece, On the Revolutions of the Heavenly Spheres. This work stated that Earth was not the center of the universe but just an ordinary planet. The center of the universe was the sun, followed by Mercury, Venus, Earth, Mars, Jupiter, and Saturn, in that order.

Today, we can see that Copernicus' argument is not the ultimate truth either, but it was a crucial first step on the path to truth and a complete denial of the geocentric theory. More importantly, the heliocentric theory's denial of geocentric theory would move beyond an astronomical debate to evolve into a challenge of Christian religious theology. The revolutionary consequences inspired by the heliocentric theory would trigger a chain reaction across a series of other fields. This was absolutely unacceptable to the Christian church.

On the Revolutions of the Heavenly Spheres was published after Copernicus had been bedridden by a stroke. With trembling hands, he caressed this masterpiece for which he'd struggled his whole life, and he died not long after.

It was the genius, atheist, Italian philosopher Giordano Bruno who developed Copernicus' theory. Bruno was not an astronomer; he used his own philosophical speculations to propose the idea of an infinite universe, further developing the Copernicus theory. Bruno believed that the sun was not static but constantly moving, and that the sun was not the center of the universe either. He believed that there were an infinite number of worlds outside the solar system, and the universe—being unified, material, and infinite—could not have a center.

Bruno's ideas infuriated the Catholic Church, and the inquisition held a seven-year interrogation against him. Bruno was indomitable and insistent upon the truth, even in prison; he was ultimately sentenced to death by burning. On February 17, 1600, Bruno was burned at the stake in Rome's Campo de' Fiori.

Brutality, bloodshed, and violence can never stop people's pursuit of truth, as evidenced by one of the most outstanding pioneers of modern science: Galileo. Through astronomical observation, Galileo concurred with the Copernicus theory and published the book Dialogue Concerning the Two Chief World Systems in 1632. This book was soon banned by the Roman Catholic Church. Galileo himself was tried in Rome and sentenced to life imprisonment in 1633.

The period in which Bruno and Galileo were sentenced by the church was the darkness before the dawn for Europe. The fourteenth-century Renaissance movement, originating in Italy, sought to organize ancient Greek and Roman works as cultural weapons against religious theology. The movement took up a human-centered humanism ideology to confront the God-centered religious ideology, opening the way for modern ideological liberation.

It was the dedication in the pursuit of truth and fearless sacrifice for righteousness demonstrated by men like Copernicus, Bruno, and Galileo that woke the dawn of the new world. From the seventeenth to the eighteenth century, the Western Enlightenment movement started in Britain and France and expanded to Germany, the Netherlands, and many other countries. The Enlightenment movement used rationalism as an ideological weapon, with its spearhead directly pointed towards feudal autocratic rule and religious theology. It opposed religious superstition in favor of promoting the spirit of science and opposed authoritarian dictatorship in favor of democracy and freedom. The Enlightenment movement even advocated for a rational society free from religion—a secularization of human life. It was the effort of Enlightenment thinkers that uncovered the path to science and reason for all humanity and removed the shackles of religion from the pursuit of truth once and for all. And then there was the American Revolution and the French revolution . . . and so scientific research suddenly saw the light.

It was the power of truth that drove the world to momentous change.

II. The Story of Earth

The earth is home to man. Our ancestors hunted, gathered, and farmed here day in, day out. It is Earth—the home our survival depends upon—that provides a habitat for humanity within the vastness of the universe. And thus humanity has endured from the beginning of time until today, evolving from apes to Homo sapiens, from barbarism into civilization.

However, the surface of the earth we live on is far from fixed and eternal; it consists of separate plates that constantly drift and change. From the formation of the earth until this day, this surface has undergone much change. About two hundred million years ago, Earth was one supercontinent encompassing all lands. What is today the east coast of South America was connected to the west of Africa; North America was adjoined to the west of the Eurasian continent; Australian was a peninsula off the east of Antarctica; the Indian subcontinent was all the way in Antarctic, thousands of miles away from Southwest China; and China's Tibet was bordered by vast seas. This was not the first time a supercontinent existed on Earth. Another supercontinent had formed about seven hundred million years ago, but the shapes and locations of the landmasses varied.

The landmasses on Earth have been separating and uniting throughout time. Just as brothers who must go their separate ways once the time comes, this supercontinent finally broke apart, the landmasses starting their separate journeys, two hundred million years ago. The Americas drifted westward, away from Europe and Africa, while the Indian subcontinent broke off from the Antarctic continent and traveled north until it bumped into eastward drifting Asia, forming the magnificent Himalayas in the process. Australia left Antarctica shortly after the Indian subcontinent and traveled north, and it maintains a northward voyage until this day.

Today, the Americas continue to drift westward with the Atlantic Ocean, expanding at a rate of one to four centimeters per year. In fifty million years, the Atlantic will have widened by more than one thousand kilometers. At the same time, the Asian continent is drifting eastward and the Indian Ocean is also enlarging. Under attack on both the east and west side, the Pacific is becoming narrower; eventually, it will no longer be the largest ocean in the world.

As the African continent continues to move north, the Mediterranean will become an inner lake and eventually disappear. The stubborn Indian continent will remain firmly pressed against Asia, causing the Himalayas to rise at a rate of one to five centimeters a year. In some tens of thousands of years, Mount Everest will be more than ten thousand meters in height, further cementing it as the world's highest peak.

After swallowing the Mediterranean, the African continent will continue its "northern expedition," eventually hitting Europe and creating a tall uplift along the African-European continental margin. The Alps will gain in height as well; however, the African continent itself will face large internal divisions. The Great Rift Valley will rupture completely, East Africa will begin an eastward drift, and a new ocean will be produced.

This almost fairytale-esque story is the theory of plate tectonics, which originated from the continental drift theory proposed by German scientist Alfred Wegener. In 1910, when Wegener was lying in bed sick, he was inspired by the world map in front of him. He was fascinated by the similarity of the landmasses on the two sides of the Atlantic, as the protrusion on one side perfectly fit into the concave of the opposite side. With such consistency in shape, could it have been possible that these two continents were once connected? With this idea in mind, Wegener began a series of studies. He not only conducted comparative studies of the continental strata on the two sides of the Atlantic, but he also researched the consistency of African and Brazilian paleontology, eventually producing the theory of continental drift.

Wegener's theory was almost unanimously opposed by geophysicist everywhere. People laughed at his "great poetical dream" and regarded him as an ignorant grandstander lacking basic knowledge of Earth science. Wegener's ideas were deemed to be simply ridiculous and completely unjustified.

Wegener was extremely marginalized and shunned in academia; this exclusion and contempt even affected the small number of people who expressed recognition or sympathy to his theory. During that time in the United States, you could not become a university professor if you subscribed to the theory of continental drift, and you would also face endless irony and disdain. In such an environment, even those who wholeheartedly supported continental drift theory could not express it out loud—this was a rare phenomenon in the United States, where democracy and freedom were such important values.

For a long time, the theory of isostasy held dominance in geology circles. It theorized that the earth's crust moved in an equilibrium of alternating rising and sinking movements that relied mainly on vertical movement and only minimally on horizontal movements. Therefore, the continental drift movement was undoubtedly a fundamental negation of isostasy theory, openly challenging existing geological theories and authorities.

Wegener was alone in his battle; even his famous meteorologist father-inlaw held continental drift theory to be mere caprice. But Wegener persisted in his academic beliefs and was committed to proving continental drift theory in every way possible.

In 1930, the fifty-year-old Wegener met a tragic death in Greenland while attempting to find further evidence to support his theory. The continental drift theory faded into obscurity along with its founder.

It was only in the 1950s that breakthroughs in paleomagnetism research finally validated his theory. When magma goes from hot to cool in its solidification process, it gains magnetism from the earth's magnetic fields. Rocks from different times magnetize in the same direction. Since rocks can be dated, the magnetization direction of rocks across different time periods can also be determined; thus, the different locations of different regions at different times can be determined as well.

In the 1960s, scientists conducted differential research into seabed rocks and terrestrial rocks in conjunction with research into submarine magnetic anomalies, eventually finding evidence of subsea expansion. Wegener's continental theory finally became recognized as truth instead of "absurd heresy." Both Wegener and his theory were vindicated in the academic community. Scientists established the theory of plate tectonics based on Wegener's theory, marking a geological revolution and the advent of a new era in Earth science.

III. The Story of the Origin of Humanity

When it comes to the origin of humanity, almost every nation has developed its own interpretation over time. Most of these explanations state that humans are created by deities and are accompanied by numerous folktales and legends. When the "God created man" story became a theological doctrine of the prevalent religious power, however, it became uncontestable, as any challenge to theological doctrine in a religion-centric world could mean imprisonment, or even death.

British naturalist Charles Darwin and biologist Alfred Russel Wallace were both revolutionary figures in the impetus to overthrow the "God created man" ideology. Darwin in particular cast unprecedented doubt on the creation theory through his detailed research and rigorous scientific analysis.

In 1831, the British Navy ship Beagle was set to embark on a scientific investigation of South America. Its main task was to conduct hydrological mapping of the east and west coast and islands of South America, as well as record a time for completing an around-the-world voyage. The ship was missing a naturalist with geophysical knowledge, so Darwin was suggested due to his interest in botany and geology, even though he was not a geologist. This voyage took nearly five years, stopping at many places around the world. While managing geological inspections and collecting data, Darwin discovered many occurrences that contradicted the creation theory.

On the South American Pampas grasslands, Darwin often observed a kind of bird that could not fly, called the rhea. These birds lived in environments similar to that of African ostriches, but although rheas were similar in body structure to ostriches, they were not identical. If God decided to create these beings, wouldn't one be enough? What point was there in repeating the process?

What struck him as even more odd was his experience while investigating the Galapagos Islands; each island had their own unique creatures. These islands were very close to the South American continent, and the islands' creatures were obviously different yet still clearly genetically related to the creatures living in South America. Even among the islands, though each island's creatures were significantly different from each other, they still

shared obvious genetic traits. This phenomenon made it possible for people to imagine that such creatures shared the same origin and developed differently in diverse environments—so species were not necessarily immutable. This ideology was undoubtedly incompatible with the "God created all things, and all things are eternal" belief.

Upon arriving in Brazil, Darwin was mesmerized by the variety of plant life, the beautiful leaves and flowers in the Brazilian forests. All this natural splendor dazzled Darwin and caused him to question if God had really created such diverse marvels one by one, all by himself.

After Darwin returned to the Britain, he started thinking in-depth about his voyage and studying domestic animals, ultimately forming the concept of evolution and publishing his far-reaching book, On the Origin of Species, in 1859. In this book, Darwin systematically expounded on his theory of evolution. He believed that all creatures were capable of evolving; some evolutions were heritable, and some were not. Evolution was caused by changes in the living environment and the use of organs; individuals evolved to better suit the environment had better chances of surviving, and organs used more were gradually developed. For example, wild ducks have stronger wings than domesticated ducks because they fly more, while domesticated ducks have stronger legs because they walk more.

Darwin believed that there was a surplus in nature, and that organisms reproduced in far greater numbers than necessary for survival. Only those individuals who evolved to best adapt to the environment survived and produced offspring, while less suitably evolved individuals were eliminated. Under natural conditions, evolution is a need for survival and reproduction. Animals compete for food and mating opportunities, while plants compete for sunshine and nutrients. They are all evolving through such competitions.

In Darwin's mind, a primitive ancestor could produce a variety of species each with their own traits. Different individual hybridizations and isolated geographical environments all contribute to the formation of new species and varied traits. All creatures within the same genus share a genetic connection, just as different foliage on a tree connects to the same trunk.

Shortly after the publication of On the Origin of Species, Darwin's follower, Thomas Henry Huxley, published Man's Place in Nature in 1863. In 1871, Darwin published The Descent of Man, and Selection in Relation to Sex, in which he enumerated many facts to scientifically prove that humans were evolved from animals and shared "kinship" with animals, thus pointing out man's position in nature. Darwin's assertion completely denied the religious doctrine of "God created the world and man." These two books once again caused a sensation. They told people that there was no Creator, that the world evolved according to its own laws, and that species evolved from other species from one common ancestor, producing a variety of complex biological species, including humans.

Darwin and Huxley's arguments caused great waves and infuriated the religious community. One debate on creation versus evolution went down in history. On June 30, 1860, the British Association for the Advancement of Science arranged a debate on creation versus evolution theory. Due to physical discomfort, Darwin did not participate in this debate. Attending on his behalf was staunch Darwinist and quick-thinker Huxley; on the other side of the debate was eloquent Oxford Bishop Wilberforce, a man renowned for his religious attainments. This debate is known in history as the "Oxford Evolution Debate," and it took place in the Oxford University Museum. The sensitive nature of the theme attracted a large volume of listeners; the venue was packed with over seven hundred attendees.

Wilberforce spoke first. Playing on the religious feelings of the people, he carried out a deeply provocative attack: “Mr. Darwin would have us believe that every animal, every reptile, every fish, plant, fly, and fungi descended from the first living creature that could breathe. This is a blatant denial of the will of God. Can we allow such betrayal of orthodox religion?” Wilberforce quickly turned his glance to Huxley and asked, “Mr. Huxley, do you consider yourself descended from an ape through your grandmother or your grandfather?” This clearly humiliating provocation caused the audience to burst into laughter.

After hearing Wilberforce’s speech, Huxley quickly realized that Wilberforce did not know what evolution was, nor had he seriously read On the Origin of Species. Huxley calmly stood up after the crowd had quieted and spoke: “I have come to defend science, and I believe that no prejudice can take away the prestige of my respected party.” He then plainly explained the fundamentals of the theory of evolution, pointing out that this was the result of twenty years of observation on Darwin’s part, not fabrication, and that it reflected the objective laws of the biological world. Then Huxley said, “On the question of humans originating from monkeys, it is not as superficial and literal as the Bishop understands it to be; it just means that humans are evolved from animals like monkeys.” After further illustrating Darwin’s views in a more comprehensive manner, Huxley turned his head and started straight at Wilberforce, replying, “[A] man has no reason to be ashamed of having an ape for his grandfather. If there were an ancestor whom I should feel shame in recalling, it would be a MAN, a man of restless and versatile intellect, who, not content with a success in his own sphere of activity, plunges into scientific questions with which he has no real acquaintance, only to obscure them by an aimless rhetoric, and distract the attention of his hearers from the real point at issue by eloquent digressions, and skilled appeals to religious prejudice.” The audience responded with warm applause to Huxley’s brilliant retort.

The Oxford Evolution Debate had great repercussions. It helped people to clearly understand the absurdity of creationism and the scientific nature of the Darwinian evolution theory. It was evolution that removed the shackles of feudal theology from the field of natural science, allowing it to embark upon a path of independent development. Simultaneously, the theory of evolution further shook the rule of religion through obscurantism, liberating people’s minds and defending the dignity of truth.

The pursuit of truth is a demanding process; it requires a certain spirit and a type of courage. Daring to challenge traditional ideas, daring to contest authority, daring to face persecution: these are all premises for the birth of a revolutionary truth.

This book bases its research on the pursuit of truth and the respect for reality. This author is determined to go forth undeterred, with no regrets or fears, because he firmly believes that the conclusions of this book are fundamentally related to the fate and future of humanity.

SECTION II: THE BEGINNING OF THE UNIVERSE

I. The Universe Started with “the Big Bang”

Nowadays, any ordinary person knows that the sun we rely on to survive is just another ordinary star in the Milky Way, and that Earth is just another planet of the sun. Before the 1920s, however, the horizon of

astronomers was confined to the Milky Way, as if the Milky Way was the entire galaxy. The first person to discover galaxies outside of the Milky Way was American astronomer Edwin Hubble. In 1925, he discovered the Andromeda Galaxy near the Milky Way through astronomical observation, marking the first extragalactic galaxy (i.e., a galaxy outside the Milky Way) observed by humans. In later observations, Hubble found that there were far more than one or two galaxies outside the Milky Way. Ten years after the discovery of the first extragalactic galaxy, the scope of astronomical observation expanded to a range of five hundred million light-years; that is the distance light travels (300,000 km per second) in five hundred million years. At the time, this observation distance seemed to be sufficiently large.

After observing numerous extragalactic galaxies, astronomers discovered that almost all of them were moving away from us, and the further those galaxies were, the faster they were moving away. For example, the Virgo Nebula is moving away from us at a rate of 1,000 kilometers per second; to the astronomers then, this was simply incredible. Why are these galaxies moving away from us? Where does our universe come from, and where is it heading? Many scientists have approached these questions from different perspectives. In 1927, Belgian astronomer Georges Lemaître suggested that all material of the universe could be traced back in time to an originating single point; he called this point the "Cosmic Egg." When the Cosmic Egg suddenly exploded, the explosion material formed the stars. Today, the Big Bang theory of cosmic formation is accepted by most scientists, and this theory is being constantly perfected.

The universe was formed 13.8 billion years ago; of course, this is only a rough estimate. Different scientists have varied understanding of this number, but the differences are not significant.Therefore, it does not prevent our discussion. This time can be confirmed in at least three ways. The first method relies on the observation of galaxy retreat speed. If we rewind 13.8 billion years, the universe can be attributed to one originating point. The second mode focuses on the study of the universe's oldest stars and the star clusters they form. Upon further inference, their ages are all close to 13.8 billion years. These are the first generation of stars formed in the universe. The third approach is centered around the decay of atoms; it uses the law of the atomic half-life to test the age of the oldest existing atoms.

The most common description humans use to describe cosmic origin states that the universe began with a primitive atom. This atom was much smaller than the atoms we refer to today; it had a diameter of only 10^{-33} centimeters, a high temperature, and large density. In specific numbers, this atom has a temperature of 10^{32} K and a density of 10^{93} grams per cubic centimeter. This primitive atom suddenly exploded 13.8 billion years ago. The space it created through that explosion is the universe; the debris it produced are the galaxies, stars, and various substances in the universe today.

However, the above description is not completely accurate. Our cosmology today is based on general relativity and quantum mechanics. Based on today's scientific theory, we can trace the formation of the universe to 10^{-43} seconds after the Big Bang. This period is called the Planck time. The abovementioned figures are the cosmic scale, temperature, and density at this time. Using this state of time as the origin of the universe is actually very arbitrary; since there had to have been a "zero-point" and a singularity point before this time, we are merely unable to describe the universe before Planck time with existing cosmic theory.

It is not easy to truly understand the description of the universe. It first demands that we surrender our observation of the things around us and adopt a completely different way of understanding everything in which we exist and perceive constantly.

From a geometric point of view, a point is zero-dimensional, a line is one dimensional, a surface is two-dimensional, and a cube is three-dimensional. This is something we learn in junior high. We can easily imagine the shape of a point, a line, a surface, or a cube. But space is four-dimensional; we can perceive it, but we cannot imagine what it looks like. Of course, there will be many people who do not agree with this argument. They might ask: Hasn't time always flowed naturally? Isn't the universe the area we see? People have these doubts because they are confused by their personal experiences. According to existing understandings of cosmic theory, time and space came into existence at the moment of the Big Bang 13.8 billion years ago, and so time has flowed until the present and the universe has been constantly expanding to this day. Surely someone will ask: Even if there was no matter or life before the Big Bang, there must have been time . . . right? The answer is no. Time started with the Big Bang; there was no time before that. If the Big Bang created the galaxies and matter, surely there was empty space before the Big Bang—how else did the debris from the Big Bang disperse? The answer is once again no. Space came into being at the moment of the Big Bang; the volume of space is determined by the volume of the universe's expansion. Someone might ask again: What is outside of the universe? What connects to the edges of the universe? The answer is that the universe only has size; it has no edge and does not touch anything. (There are scientists who believe that there are other universes outside of our universe, but we cannot see them since space is four-dimensional.)

When we observe the galaxy through a telescope, we discover that the further away a galaxy is, the faster it is moving away from us—that is not to say that we are the center of the universe. As a matter of fact, we would reach the same conclusion observing the universe from any planet in any galaxy. Just as when we blow balloons we might observe on any point on the balloon that the further away a point is the faster it is moving away. Observations made on any fixed point give the illusion that the observer is at the center. In reality, every point is just an ordinary point.

The explosion 13.8 billion years created the epoch. At the beginning of the Big Bang, the four natural forces we know today (strong interaction, weak interaction, electromagnetism, and gravitation) were unified. As the universe began to cool and expand, these four forces started to separate. At the same time, the asymmetry between matter and antimatter began to appear; matter outweighed antimatter by a tiny portion. These were the "Dark Ages" of the universe; in this dark space, particles and antiparticles annihilated into photons, producing energy. This annihilation included neutron-antineutron annihilation, proton-antiproton annihilation, electron-positron annihilation, and neutrino-antineutrino annihilation. Today, light fills the entire universe mainly as a product of the early Big Bang period, while the matter that remains from this large annihilation is our cosmic galaxy.

Three minutes after the Big Bang, the temperature of the universe fell to one billion K. During this time, protons and neutrons combined to form nuclei; this process lasted about an hour. When the universe's temperature dropped to one hundred million K, the nuclear synthesis ended. According to theoretical calculations, among the products of the nuclear synthesis, hydrogen accounts for ¾, helium takes up ¼, while tiny amounts of lithium, beryllium, and boron account for less than one millionth of the whole. These theoretical figures have received initial confirmation through astronomical observations today.

During this time, the universe was full of photons, but it was not transparent due to the large number of free electrons also existing in the universe. These electrons blocked the path of photons. About thirty million years later, the temperature of the universe had dropped to 3,000 K, electron movement was less intense, and it was possible for hydrogen nuclei to capture one electron and turn into hydrogen atoms, for helium nuclei to capture two electrons and form helium atoms, and for lithium nuclei, beryllium nuclei, and boron nuclei to all capture

corresponding electrons and form atoms. Without the electrons blocking their paths, photons were liberated and lit up the universe, ending the Dark Age. Concurrently, the universe moved from a radiation-based era to a matter-based era.

In the 1960s, while debugging the radio astronomical telescope, two engineers at the Bell Labs—Arno Penzias and Robert Woodrow Wilson— discovered that a very "cold light" occupied the universe sky. This "light" encompassed every star and every galaxy, filling every corner of the universe. It was not visible with optical telescopes but could only be observed through radio telescopes; its corresponding temperature was 3 K. We know that 0 K is absolute zero, measuring -273 ºC. This is the theoretical minimum temperature, and 3 K is exactly the theoretical calculation of the temperature of waste heat produced by the Big Bang. That cold light that filled the universe is the original light remnant of the Big Bang; it is the remains of the photons from the Dark Age of the universe. Since 13.8 billion years have passed and the universe has undergone a great expansion, the initial photons are now scattered throughout the universe and have become very sparse. Only a few hundred photons exist in every cubic centimeter, which equates to 3 K in temperature. Evenly spread across the entire universe, this light is called "Cosmic Microwave Background Radiation." These two engineers' accidental discovery proved to be the most powerful proof for the Big Bang Theory, and the two were awarded the Nobel Prize in Physics in 1978 for that reason.

At the same time the universe was expanding from the massive force of the Big Bang, atoms were being brought together by gravitational force to form huge clouds. Two hundred million years after the Big Bang, these atom clouds had finally been compressed tightly enough so that stars could be born. At this time, the universal temperature—that is, background radiation— had dropped to 30 K. The universe's sky had changed from the earlier yellow and red to the darkness we see today, with dots of stars twinkling in the distance. Galaxies began to form as well; 13.8 billion years after the Big Bang, the universe is still continuing its outward expansion.

II. The Universe and the Milky Way

There is no question that the Milky Way is also a product of the Big Bang, yet unlike the cosmic Big Bang theory, there is no consistent view regarding the formation of the Milky Way. The general belief is that a large cloud of atomic gas gathered due to gravitational force and formed a relatively enclosed and independent space shortly after the universe was created. Under gravitational force, a number of smaller enclosed and independent air masses formed within this large enclosed air mass; these smaller air masses became more and more dense, and their internal temperatures rose higher and higher. About two hundred million years after the universe formed, they ignited their own hydrogen nuclei one by one, producing enough heat to set the air masses aflame and form the first generation of stars. That original gas cloud encompassing hundreds of millions of stars evolved into one giant galaxy: the Milky Way.

According to research today, the Milky Way is a barred spiral galaxy comprised of a large number of stars. Some people compare it to the discs athletes throw, since it is also round, thin, and convex in the center. Along the diameter of this "disk," we call the center the Galactic Center, and the convex part surrounding the center the Galactic Bulge, with the galactic disk and halo ranging around it.

The Galactic Center of the Milky Way is flat and spherical in shape, measuring 16,000 light-years in diameter and about 13,000 light-years in thickness. It is densely populated by stars and is filled with dense interstellar matter and nebula. According to observation, there is a supermassive black hole in the nucleus area, supported by the existence of strong cosmic ray radiation, which is evidence of black hole phagocytosis.

The area around the center is semi-densely populated by stars and called the galactic disk; it measures 100,000 light-years in diameter, with a thickness of about 3,000–6,000 light-years. It is thicker near the center and thinner around the edge. The spherical shape surrounding the galactic disk is called the halo; it is about 100,000 light-years in diameter and is sparsely populated with stars, most of which are older and mineral-weak. Within the halo, some stars have aged to the last period of their star-life, and some of the larger ones even scatter their heavier elements through supernova explosion. These scattered elements land on the disk and become the "material" that form new star systems.

The galactic disk has a spiral arm structure that extends from the inside out, approximately symmetrical to the Galactic Center. The spiral arm contains more young, bright, metal-rich stars with denser galaxy dust, and it is also where stars are born. The Milky Way galactic disk has four spiral arms: the Norma and Cygnus arm, the Sagittarius arm, the Scutum-Crux arm, and the Perseus arm. At present, our solar system is located in the Orion arm, which is a minor spiral arm. The sun is 27,000 light-years away from the Galactic Center and slants about twenty-six light-years north off the surface plate; it revolves around the Galactic Center at a rate of 220 kilometers per second. Even at such high speed, one full rotation around the Galactic Center takes approximately 250 million years; thus, we call 250 million years one galactic year.

When we observe the sky with the naked eye, we cannot see the spiral nebula of the Milky Way, nor the spiral arm structures. In a clear summer night sky, all we can see is a bright river of stars stretched across the sky. This is because we are situated in the galactic disk and can only observe a side view of the Milky Way, so it will always look ribbon-shaped to us. There is a brighter, denser area near Sagittarius—that is the nucleus of the Milky Way.

In gross estimation, there are about two hundred billion stars in the Milky Way (some scientists believe the number to be much higher—as much as two thousand billion galaxies) and around 300 billion galaxies in the universe. This is an extremely vast number. With so many stars and galaxies out there, it is humanly impossible to count them one by one. Even if every single person in the world spent their life counting, it would not be enough to tally all the stars in the universe. In fact, the number of stars and galaxies is obtained through "weighing." It is calculated according to the orbit patterns of stars and galaxies.

Our galaxy is a relatively large galaxy within the universe, and it is not alone—there are about ten smaller galaxies surrounding it. Each of these galaxies has stars ranging in number from billions to tens of billions; there are even some dwarf galaxies with only a few million to hundreds of millions of stars. The Milky Way rules these galaxies through its gravity and dictates their movement. There are also bigger galaxies neighboring the Milky Way. In this lineup, the Milky Way can only claim second, with the Andromeda Galaxy reigning supreme. The Andromeda consists of nearly one hundred billion stars, and it rules more than ten smaller galaxies as well. In addition, there are some galaxies smaller than the Milky Way and Andromeda that are not governed by the two, but rather connected internally to form an independent, giant celestial system. We call this celestial system a "galaxy cluster," or "galaxy group."

The independent celestial system in which the Milky Way is located is relatively small, with only thirty galaxies. It does not quite reach the quota for a cluster—only a group. We call it the Local Group. Other galaxy groups near the Local Group include the Sculptor Group, the M81 Group, and the Virgo Cluster.

Galaxy groups (clusters) are all individually independent within the universe. As we know, galaxies are all moving away from each other, but that is not the case for the members in the Local Group. Apart from the ten or so satellite galaxies orbiting the Milky Way, the Andromeda galaxy, two hundred light-years away, is speeding towards us at a rate of 120 kilometers per second. According to this calculation, it will meet with the Milky Way in thirty billion years.

In our universe, galaxy groups (clusters) are not the real giants; superclusters are celestial systems even larger than galaxy groups (clusters), and they take the throne. Superclusters are also known as second-order clusters and are comprised of smaller galaxy clusters or galaxy groups. The Local Group Galaxy Cluster is part of the Local Supercluster, which encompasses the Sculptor Group, the M81 Group, and the Virgo Cluster. The Local Supercluster contains about fifty galaxy clusters and galaxy groups, totaling thousands of galaxies. It is a flat, giant cluster of galaxy clusters with the Local Group located along its edge. The center of the Local Supercluster lies in the Virgo Cluster, sixty million light-years away. The Milky Way revolves around the center of the Virgo Cluster, completing one orbit about every one hundred billion years.

The two superclusters relatively close to us are the Perseus-Pisces Supercluster, twenty-five million light-years away, and the Hercules Supercluster, five hundred million years away. There is vast empty space between superclusters. In that distance of hundreds of millions of light-years, even the existence of interstellar material is extremely rare, not to mention celestial bodies.

The celestial system one level higher than superclusters is the cosmic universe we can observe today, called the metagalaxy. Because humans are still limited in terms of observation, the universe we can observe today is still far from the entirety of the universe.

In March 2016, the Hubble telescope observed the most distant galaxy we have discovered to date—the GN-z11, also known as the infant galaxy—13.4 billion light-years away from Earth. This is a very exciting record, as it not only conveys a far-off distance, but also a very distant time. As light travels, it not only produces distance, but it also brings information from the past; 13.4 billion light-years is not only the distance between two galaxies, but also the ancient information that a distant galaxy sends us. In other words, the infant galaxy we see today is not its current form, but a galaxy from 13.4 billion years ago. The infant galaxy existing now has far surpassed our current observations. It is important to note that the theoretical history of the universe is 13.8 billion years, which means that we can now observe any galaxy born four hundred million years after the creation of the universe.

Is it also possible to gain an ultimate panoramic view of the entire universe as we continue to improve our observation techniques? It is theoretically impossible to achieve this ultimate goal. Hubble's law tells us that the farther away a galaxy is from us, the faster it is moving away from us, since light has the fastest speed in nature. The farthest galaxies we observe today are already speeding away from us at a rate close to the speed of light, and farther-off galaxies are speeding away even faster. On one hand, they are moving away from us at a speed close to that of light, while on the other hand their light travels to us at the speed of light; these two opposing speeds offset each other. Just as we cannot produce actual distance on a treadmill, so the farthest corners of the universe can never be exhausted.

Now that we understand the macro structure of the universe, let us go back to comprehend its microstructure. We are in the stellar period of the universe's history. According to theoretical calculations, this period should continue for hundreds of billions of years. The main players of the stellar period are naturally stars, and the sun we rely on for survival is one such star. When we peer into the night sky at the sparkling stars, we actually see stars burning in the distance. We can see a limited number of stars with the naked eye—only about 6,000 or so. The actual number of stars is trillions of times more than what we see. Many stars have already died and become white dwarfs, neutron stars, or black holes; they can no longer burn.

Stars are not static. Just as the sun orbits around the Galactic Center, other planets orbit according to certain rules as well. Stars do not exist in isolation either; they have many members in their families. First there are the planets that are gravitationally attracted to the stars—our Earth is one such ordinary planet in the solar system. Celestial bodies that orbit planets are called satellites. Satellites are also members of the stellar family, but they are controlled by the gravitational force of planets. The moon is the earth's satellite. Satellites are not the smallest celestial bodies in the stellar system; in addition to satellites, there are many asteroids, comets, meteorites, and interstellar media that also react to the star's gravity. All of these are members of the stellar family.

The space between stars is not necessarily a vacuum either. Interstellar gas and dust, cosmic rays, particle flow, and interstellar magnetic fields all exist in that in-between; they are collectively referred to as "interstellar material." Interstellar material is extremely thin and unevenly distributed. During astronomical observation, concentrated cloud-like objects, called nebula, are often found in space. These are areas where interstellar material is more concentrated.

Stars are not evenly distributed in the galaxy. They tend to group in denser concentration towards the center of the galaxy and in sparser concentration along the edge. In the Milky Way, the nucleus is densely populated with stars, while the halo is more sparsely populated. This rule does not only apply to spiral galaxies like the Milky Way but holds true in elliptical galaxies, disk galaxies, and irregular galaxies as well. Apart from the distribution patterns mentioned above, some stars also form stellar cluster under the influence of gravity. These clusters have tens of thousands to tens of millions of stars, forming smaller stellar systems of their own. Stellar clusters can be divided into globular clusters and open clusters; they are all members of the galaxy and belong to the stellar family.

In the universe, dark matter and dark energy far outweigh visible matter. It is speculated that visible matter makes up only 5 percent of the universe's matter, with the vast majority being dark matter and dark energy. With the current levels of science and technology, we know little about dark matter and dark energy, but we can determine their existence. If the actual rotational speed of a rotating galaxy is faster than its theoretical speed, we can deduce that there is non-visible matter accelerating its rotation. Likewise, if the expansion of the universe exceeds its theoretical speed, that means dark energy is playing a role.

III. The Solar System and Earth

To understand the solar system and the earth, we must first start with their formation. In the Milky Way and in other corners of the cosmos, new stars form constantly. This phenomenon has been confirmed through

astronomical observation, and the formation of the solar system can also be inferred from the formation of other stars.

The general belief is that the solar system was a gray cloud cluster before its formation, made up of countless air masses and dust particles. Most people believe that this cloud was a remnant of an exploding star that was tens of times larger than the sun. After the initial explosion, the debris was extremely hot, and it did not start to cool or darken in color until many years later. Due to the inherent gravity of the material, these substances slowly gathered together and became concentrated, with the central part becoming especially condensed. Through the role of gravity, the central area rose in temperature and density, indicating the birth of a new star; such birth processes were commonplace in the universe.

As the center of this air mass became increasingly dense, its core temperature reached ten million degrees. Volatile hydrogen nuclei finally gathered enough momentum to break through the electromagnetic barrier and collide, thereby creating nuclear fusions. The huge amounts of energy and light produced through nuclear fusion radiated out, creating a new star—that was the formation of our sun. Through analysis of the heavy elements in the solar system, we can deduce the sun to be a third- or fourth-generation star. As a star, the sun's age is calculated from the moment of its nuclear fusion, dating back about five billion years.

As the sun formed as a star, the planets around it were also forming. Initially, there were many asteroids in the outer area of the solar system cloud cluster; the largest measured hundreds of kilometers in diameter while the smallest were only a few hundred meters in diameter. There were hundreds of millions of such small asteroids, and in addition, large amounts of rock fragments and ice existed as well.

Because these asteroids were so large in number, there was constant collision between them. Some such collisions produced comminuted explosions, resulting in numerous minute particles, while some smaller asteroids were absorbed by bigger ones during collision, causing them to grow in size. These collisions continued for many years until one day an asteroid gained enough mass to stand out from the group. The gravitational force of this bigger asteroid caused the surrounding asteroids to collide with it more frequently, making it more powerful at the same time. After many more years of collision, a planet was finally born. Our Earth was one such planet, born 4.6 billion years ago. Thereafter, the collisions lessened in frequency until finally tapering into calmness, and the earth entered a period of stability.

The solar system has eight planets, with Mercury being closest to the sun, and Venus, Earth, Jupiter, Saturn, Uranus, and Neptune following in order.

The moon is Earth's satellite and is the astronomical body closest to Earth, with an average distance of 380,000 kilometers. Within the solar system, apart from Mercury and Venus, the other six planets all have their own satellites. Jupiter has the most, with sixty-nine confirmed satellites, while Saturn ranks second with sixty-two confirmed satellites. In addition to the eight planets and their respective satellites, dwarf planets, asteroids, and comets also exist in the solar system. Meteorites and interplanetary medium are also essential members of the solar system family.

As the absolute leader of the family, the sun's mass accounts for 99.85 percent of the total mass of the solar system. The total mass of all eight other planets account for less than 0.135 percent. The planets' satellites, comets, asteroids, meteorites, and interplanetary medium only account for 0.015 percent of the solar system.

Current scientific capabilities are enough to prove that the earth is the only planet with intelligent life in the solar system. No other planet has the environmental conditions to nurture and support intelligent life. After further studying the conditions required to produce intelligent life, one conclusion is certain: the true miracle of the solar system is the emergence of human beings. Even the formation of the sun pales in comparison, as there are countless stars in the universe, but very few star systems capable of producing intelligent life.

SECTION III: THE ORIGIN OF MAINKIND

I. Humans are the Product of Evolution

Today we can say with certainty that humans are the product of evolution—a miracle of life formed through mutation, inheritance, and natural selection.

Humans and Hominoidea (apes) originate from the same ancestor, the earliest of which can be traced back to Africa. Apes are a close relative of humans, while chimpanzees, gorillas, and orangutans have all shared common ancestors with humans.

The ancestors of mankind can be traced back to the Egyptian ape about thirty million years ago. Around ten to twenty million years ago, humans and apes began to move in two different evolutionary directions; one developed into the modern human, and the other developed into the modern ape. However, the Egyptian ape cannot be called the ancestor of mankind. The true ancestor of mankind—the first to step over the human threshold—is the Australopithecus.

The Australopithecus lived in Southern Africa about 4.4 to 1 million years ago; its brain capacity was about 35 percent of the modern man's, which is 20 percent higher than that of the chimpanzee.

The early Australopithecus was divided into two branches: one burlier in build, and the other more slender. The burlier branch was eliminated through evolution in the Pleistocene epoch, while the slenderer branch evolved into the ancestors of mankind. The burlier branch evolved studier, stronger limbs to better adapt to the environment; the slenderer branch evolved brainpower and flexibility to better suit their living environments. As evidenced by reality, wisdom of mind surpasses strength of body and is more conducive to adapting to the environment.

Currently, recognized fossils of Australopithecus have only been discovered in Africa. So why did humans and apes split ways on the path of evolution? Archaeological excavations of Africa and the Arabian Peninsula have yielded the following conclusions:

The Great Rift Valley split East Africa into two halves from south to north. A series of canyons and lakes formed a natural barrier between the biology existing on the east and west sides, creating two independent developmental environments. The Australopithecus living in the west adapted well to the moist grove environment where rain and food sources were abundant and survival was easy. They evolved to become today's living apes. On the east side, the environment was much harsher. The climate was dry and food source was scarce. The Australopithecus had to struggle in order to satisfy basic survival needs. They had to prevent

attacks from large carnivores and also ward against sudden volcanic eruptions. Due to these difficult conditions, many perished and only a small portion survived and evolved to cross over the human threshold. Therefore, humans come from the small number of winners who survived the struggle against a harsh world. We are the strongest adaptors.

Between 1.9 million and 1.65 million years ago, the earliest group capable of manufacturing tools appeared. They were known as Homo habilis. The fossils of Homo habilis were first discovered in the Olduvai Gorge in Tanzania. Other fossils were discovered later in other parts of Eastern Africa. The Homo habilis possessed much larger brain capacity than the Australopithecus, reaching more than 50 percent of the capacity of the modern brain, with similar overall shape and grooves. Homo habilis were capable of attacking beasts with simple stone tools, cutting fur, and mashing nuts, and they might possibly have possessed linguistic communication skills.

The genus member more evolved than Homo habilis was Homo erectus. Homo erectus fossils were first discovered in the Trinil area of Java, Indonesia, in 1891. Fossils were also found in other parts of the world. With the exception of the Americas and Oceania, Homo erectus fossils were found in Africa, Asia, and Europe. China's Peking Man and Lantian Man are all Homo erectus.

The Homo erectus lived between two million to 200,000 years ago. Their brain capacity was over 60 percent of the modern man's, and they were able to create very sophisticated stone tools.

The most important characteristic of the Homo erectus was the ability to use fire. The use of fire not only made meat more delicious and previously inedible things edible, but it also prevented against animal attacks and guaranteed warmth in the winter. Fire played a critical role in the ultimate separation between humans and animals . . . and the final evolution of man.

The evolutionary species that came after Homo erectus was Homo sapiens. Homo sapiens can be divided into early Homo sapiens and late Homo sapiens.Early Homo sapiens lived around 300,000 to 100,000 years ago, and late

Homo sapiens lived 100,000 years ago. Late Homo sapiens were anatomically similar to modern humans, which is why modern humans are known anatomically as Homo sapiens.

In addition, about 120,000 to 30,000 years ago, a highly evolved race known as the Neanderthals lived in Europe and West Asia. Neanderthals are so named because their first fossils were discovered in the Düssel River's Neander Valley; they are also occasionally called "the Neanderthal Man." Neanderthals do not belong to the same species as the modern man but are a species of archaic humans, while modern humans fall under the Homo sapiens species. However, according to recent studies, scientists believe that Neanderthal genes can be found in most modern humans, which means that modern man had sexual contact with Neanderthals. Although Neanderthals became extinct some thirty thousand years ago, modern man has passed on information from the Neanderthals, to some extent.

II. The Characteristics of Human Evolution

Humans, like all other animals, are the product of evolution, yet humans went down a completely different evolutionary path. In the bitter cold of the Ice Age, nature evolved the woolly rhino and mammoth, providing Rhinocerotidae and Elephantidae animals with thick fur and skin to withstand raging cold winds; to adapt to thick-skinned herbivores like the woolly rhino and mammoth, the saber-toothed tiger evolved out of feline predators; the antelope developed speed to outrun carnivorous predators; the giraffe evolved from Ruminantia to reach higher vegetation; the hedgehog developed burrs to protect itself; the chameleon evolved to change color according to its surrounding in order to better camouflage itself, and so on.

The evolution of mankind differs significantly from all other animals. Man started evolving through the brain. All of their environmental adaptions are based on the brain (relative to the evolution of the brain, the other aspects of evolution are secondary). Counting from the starting point of evolution, humans have increased their brain capacity threefold in less than ten million years. Mastering this key of evolution was very important; once humans completed this evolutionary process, it was taken for granted that they became masters of Earth.

SECTION IV: THE ORIGIN OF HUMAN CIVILIZATION

I. From Barbarism to Civilization

Humans have evolved from animals. About three million years ago, the ancestors of man learned to use stone tools. About 500,000 years ago, the use of fire expanded the scope of food and helped man's ancestors overcome the cold, allowing them to move out of the warm climates of lower latitude Africa towards Asia, Europe, Australia, and the Americas. Humans migrated in the pursuit of food constantly, and in large groups. This migration process took very long. Australia was reached about fifty thousand years ago, and the Americas were only reached fifteen thousand years ago.

The social development of human beings has always been relatively small. This social organization existed in the form of primitive communes; any person who obtained food had to share it among the collective, and every person had the right to share in collective food source.

Because the demands of life—that is, basic food—were very simple, and the number of humans distributed around the world was small enough to easily assure such demands, people had ample leisure time. Once enough food was obtained, all remaining time could be used for rest and entertainment. That is why many scholars believe that late Paleolithic humans were happier and more relaxed than people today.

The first major change in human lifestyle and the formation of human society occurred about ten thousand years ago. During this period, the manufacture of stone tools became much more sophisticated, evolving from earlier striking methods to polishing techniques, coining this time the "Neolithic Age."

The most revolutionary change for mankind was the mastery of plant and animal domestication. Planting and keeping animals provided a much more stable lifestyle compared to the migratory way of hunting and gathering.

It offered more security as well, allowing people to settle down. This change in production methods was later known as the “Agricultural Revolution.”

The Agricultural Revolution fundamentally changed life and social structures for humans. After settling down, people formed family units and villages. Compared to the gathering method, planting and farming greatly improved the efficiency of land usage, permitting villages to expand and far exceed the human groupings of the gathering era. The efficiency in production created enough surplus for storage, sparking conflict and war. To better ward off foreign invasion, two or more villages would unite to form a tribe, further expanding the scale of human society.

In the late Neolithic period, people invented metal-smelting technology. The first metal to be smelted was copper. Adding a small number of additives to copper enhanced its performance quality. Bronze is produced by adding small amounts of tin to copper.

Pottery and weaving also emerged in this era. With the development of agriculture, irrigation and water conservancy projects also arose; complete and intricate agricultural irrigation systems existed in Mesopotamia and Egypt more than six thousand years ago.

Before the Industrial Revolution took place more than two hundred years ago, the center of human civilization was firmly fixed upon the Eurasian continent and the African region north of the Sahara Desert. (Unless otherwise specified, we will call this “North Africa” in this section.) Due to the swamps in the Sahara Desert and the upper reaches of the Nile, North Africa and the Eurasian continent shared more contact, while the African region south of the Sahara (referred to as “South Africa,” unless otherwise specified) was isolated from the hub of civilization on the Eurasian continent. The Americas and Australia also existed in relative isolation.

The ancient Eurasian continent and North Africa possessed 90 percent of the population and the most advanced civilization. Among some of the most important ancient civilizations that existed here were: the Mesopotamian civilization along the Tigris and Euphrates rivers; the Egyptian civilization along the Nile; the Indian civilization along the Indus and Ganges rivers; the Chinese civilization along the Yellow River and Yangtze River; and the Minoan civilization of the Mediterranean Crete.

It is worth mentioning that many nomads lived outside of civilization on the vast expanses of grassland north of Eurasia, from the northeastern part of China in the east to the Hungarian planes of central Europe in the west. These powerful nomads traveled south to pillage and plunder civilized areas every chance they got, destroying buildings and spilling blood in their wake. They were the destroyers of civilization; however, they were also the messengers of civilization, as they brought Eastern civilization and technology to the West, and Western civilization and technology to the East.

Different ancient civilizations came into being at different times, with only indirect influences between them. Chinese civilization especially experienced less influence from other civilizations due to its far-off location in the East. Due to long distance and inconvenient traffic, the basic principles of civilization only journeyed from one place to another after many years. Only after accepting these basic principles—and only these basic principles—did the major civilizations start to flourish, each with their own characteristics.

Every civilization is always under constant destruction and reparation. The main destruction comes from war, but natural disasters like earthquakes and volcanoes also play a part, albeit a secondary one. Some civilizations

were destroyed and never rebuilt, like the Minoan civilization on the island of Crete. It was destroyed without a trace left; even the subsequent Greek civilization did not accept much of its influence. Some civilizations are repeatedly destroyed and reconstructed; this reconstructed civilization is impacted by its predecessor, but its core values often undergo great change. Mesopotamian civilization, Egyptian civilization, and Indian civilization all have such features. However, there is one other civilization that has been damaged and rebuilt many times but has managed to continue uninterrupted: the Chinese civilization.

II. The Pace of Civilization

Ancient civilizations can only be regarded as primitive civilizations, as human civilization did not stop its in-depth development after its establishment. As civilization develops in depth, it also develops in scope. When ancient civilizations were conceived, they were like single, isolated islands floating in the corners of the world, surrounded by barren land. These "islands" were like sparks of flames, constantly burning and expanding, influencing the areas around them until all civilizations connected into a whole. This period is called the Classical Era or Classical Age by scholars.

For the purpose of this section, we will continue to use the Eurasian continent and North Africa as the main subject of observation. We know that in the earlier stages, a series of small city-states formed in the major civilized areas. These small states coveted each other's wealth and resources, so constant battles ensued. As war raged, the more powerful states gained in power while weaker states were swallowed up. As states expanded in scale, the battles between small states became wars between large nations; the scope of civilization continued to expand, eventually forming one whole.

The emperor Qin Shi Huang was the person to first unify Chinese civilization. Early Chinese civilization was confined to the small area near the middle reaches of the Yellow River. As civilization spread, a number of small vassal states were formed, all of which were nominally affiliated to the Zhou dynasty. In reality, the Zhou dynasty only had control over the limited area around itself. By third century BC, only seven larger nations remained due to war and the merging of vassal states. Among them, Qin—a nation developed from border tribes—was the strongest in power. Under these circumstances, Qin Shi Huang destroyed the six other countries over one decade of conquest, establishing a unified Qin dynasty in 221 BC.

Indian civilization was united by the Maurya dynasty. During the rule of Ashoka, a series of successful expeditions were launched, joining Indian civilization as one. In the time that followed, the neighboring civilizations of China and India developed along different respective paths. Indian civilization spent more time divided, while Chinese civilization spent more time united.

Roman civilization was an important component of European civilization; it is both a sister civilization and a continuation of Greek civilization. In its heyday, the Roman Empire spanned Europe, Asia, and Africa, surrounding the entire Mediterranean. Its origin can be traced back to the Roman citystate on the Apennine Peninsula. After centuries of war, the Romans united Italy. Then they conquered many countries along the Mediterranean over more centuries of war, forming the huge Roman Empire. During Rome's prime, its contemporary, China's Han dynasty, equaled it in size and power, making the two the respective East and West cores of civilization.

The middle and later parts of the millennium BC was a time of great ideological advancement for humanity. Due to great unrest, centuries of war, and long periods of divide experienced by the major civilized areas, people thought long and hard about the universe, life, ideal societies, ideal governments, and moral ethics. A great number of outstanding thinkers emerged, and their thoughts pushed humanity into maturity. Under the guidance of these ideological masters, human society rationalized in leaps and bounds. The influence of these thinkers lives on, remaining rooted in the depths of human society until this day.

In the five hundred years between 770 BC and 221 BC, philosophers, thinkers, military strategists, and educators like Laozi, Mozi, Confucius, and Sun Tzu flourished in China. India's Buddha was a contemporary of China's Confucius; he was born during a time of great social upheaval in India. Buddha observed the pain people suffered through aging, sickness, and death, prompting him to agonize over the meaning of life and ultimately create Buddhism.

In the same period, Greek thinkers replaced the mysticism of religion with scientific rationalism. Their philosophical speculation started with the understanding of nature, asking and answering questions freely using rationality. In time, a number of outstanding rationalist thinkers and scientists like Socrates, Plato, Aristotle, and Archimedes appeared.

In the history of ideology, another far-reaching event would take place later. Jesus created Christianity in the first century AD.

Human history has always been accompanied by war, and this period was no exception. However, two wars must be mentioned, for they impact all of human history. The first war was the eastward campaign of the Macedonian king, Alexander the Great. After Alexander inherited the throne, he unified most of Greece through a series of wars, and then he launched a war against the powerful Persian Empire. His conquest was unstoppable. Although the Persian Empire was much larger and had more troops, it crumpled under the iron fist of Alexander the Great. After conquering Egypt in the south, Alexander advanced eastward until he hit the river basins of India.

Alexander the Great held great respect for Greek culture, so he was determined to spread Greek civilization to the corners of the earth. He realized, however, that the brilliant oriental civilizations were not inferior and sometimes were even more marvelous than Greek civilization, so he became a facilitator of culture exchange instead of cultural invasion.

The other war worth mentioning was the war waged by the Eastern Han Dynasty against the Huns. The Huns were a strong, nomadic tribe in northern China, long accustomed to harassing the Chinese Empire to its south. Relying on the strength of his empire, Emperor Wu of Han launched a series of large-scale wars against the Huns. As a result of these wars, the Huns were greatly weakened, and a portion of the Huns joined the Han dynasty shortly after, while the rest fled into the depths of the desert. The fleeing of the Huns invoked a great migration in the history of the world. This migration lasted hundreds of years, changing the course of world history.

At that time, there were many strong ethnic groups living on the Eurasian grasslands; the Huns were one of the strongest. As the Huns migrated westward, they occupied the lands of other nomadic tribes. Unable to contend with the fierce Huns, these tribes were forced to move farther west into other nomadic territories. Many Germanic tribes had occupied the grasslands of central Europe and were now crammed into the small area in

the north of the Roman Empire during this migration. At every opportunity they would travel south to rob wealthy Romans.

During this time, the Roman Empire divided into two parts. The Eastern Roman Empire (also known as the Byzantine Empire) was still strong, so the Germans had less opportunity for looting. The Western Roman Empire was in decline, and after repeated invasions it was eventually occupied by the Germans in 476. The demise of the Western Roman Empire holds major significance. Historians use the fall of the Western Roman Empire as a dividing line, denoting the thousand years following the fall as the "mid-century."

III. The Century of the East

After the Western Roman Empire fell, the Byzantine Empire continued to survive for nearly one thousand years, striving to continue the splendor of the Roman Empire. The Justinian period in particular tried to restore the territory of the Roman Empire, achieving some success. But overall, the Byzantine was on the decline; its rule shrank more and more and the nation weakened gradually until it was destroyed by the Ottoman Empire in 1453.

Europe was most often dominated by barbarians. Under their rule, almost all of classical European civilization was destroyed. Only the Roman religion was inherited. During this period, European society was scattered and divided into many small countries. Religious rule rose above imperial power, achieving dominance. As cultures suffered destruction, religious rule strictly imprisoned people's minds, casting Europe into a cultural desert; academic circles call this period the "Dark Ages."

To say that the entire world was shrouded in darkness during the Dark Ages is a gross generalization. The lack of creativity was only restricted to the West; the East experienced a great prosperity of culture. The number system we call "Arabic numerals" was developed in this period by the Indian people and was spread to Europe by the Arabs. The Arabs also absorbed the mathematical achievements of the Indians and Greeks to create their own unique mathematical accomplishments—algebra was one especially brilliant achievement. Arabs also experienced successful creative achievements in astronomy and medicine.

During the Medieval Period (fifth to fifteenth century), China contributed the most significant cultural achievements of all. Most of the world's scientific and technological advancements came out of China in this period; among them, the four great inventions—the compass, paper-making, gun powder, and printing—made the most significant contribution to human society. China's four great inventions quickly spread to the Arabs and Persians, who later brought them to Europe.

Obviously, the abovementioned creations and inventions are not the full scope of medieval cultural development in the East. The Eastern world also achieved remarkably in the fields of literature, art, and philosophy.

The rise and expansion of Islam was another very influential event of the Middle Ages. Muhammad not only created the Islamic religion, but he also spread it through war and missionary work, thus uniting the Arabian Peninsula. His successors continued to promote the spread of Islam and expand the territory of Arab countries, ultimately forming a religious nation of unprecedented scale. This religious nation covered a variety of different

areas and spanned all three continents of Europe, Asia, and Africa. The rise and spread of Islam created conflict with Christianity. The famous Crusades raged from 1096 to 1291 as the war was fought over control of Jerusalem, as well as numerous other cities and religious sites.

At the beginning of the thirteenth century, a powerful nomadic nation sprung up on the grasslands of northern China: the Mongol nation. Genghis Khan and his descendants used brutal war tactics to carry out invincible conquest. The Mongols built an empire of unparalleled reach. Starting in China from the East and encompassing Korea, it reached Poland and the Baltic Sea in the West, and Mesopotamia and the Arabian Gulf in the West. Most of the Eurasian continent was included in the territory of the Mongol Empire.

In Europe, the Germans broke into many small countries after conquering the Western Roman Empire. Among them, the Franks established the most powerful kingdom. Relying on support from the Pope, two generations of Franks rulers, Pepin and Charles the Great (also known as Charlemagne), conquered and built an empire that encompassed most of Europe. Since this empire rose to its peak during the rule of Charles the Great, it is known as the Charlemagne Empire. Shortly after the death of Charlemagne, the Charlemagne Empire split into east, central, and west portions; these would later become Germany, Italy, and France. These three countries played a very important role in European and world history—one that persists today.

The original people inhabiting England were called the Celts; they later came under the rule of the Roman Empire. After the Western Roman Empire was invaded by the Germans, England was occupied by two smaller Germanic tribes, the Angles and the Saxons. Anglo-Saxons became the masters of this land thereafter.

IV. The History of the World

When Christopher Columbus discovered the Americas in 1492, the American people were still in the early stages of the Agricultural Revolution. They had domesticated over one hundred types of crops—no less than Eurasian cultures— but farming only made up a small portion in their production. Most of their food was obtained through the more primitive method of gathering.

Prior to this, the Americas had formed three large areas of civilization. The Mayan civilization of Central America was a leader in arts and technology; they created imaginative architecture and sculptures and also mastered considerable mathematical and astronomical knowledge. The Aztec civilization was located in Mexico; they were an aggressive people that staged tribal wars to capture prisoners in order to sacrifice their hearts to the gods. This sacrifice was to ensure victory in battle, while victory in battle was meant to produce more captive hearts to sacrifice for victory. This produced a vicious cycle that fed war with more war. The Inca civilization in Southern America had the relatively highest level of civilization; they had formed an empire called the Inca Empire. The Inca Empire had a unified religion, the Inca religion; they practiced state-ownership when managing land, mines, and other assets, and they had a centralized conscription and taxation system. In comparison, the Mayan civilization and the Aztec civilization were still in tribal stages.

When the British arrived in Australia in the late eighteenth century, they found the land even less civilized than the Americas. There were about 300,000 indigenous people living in Australia, all still stuck in the Paleolithic Age. They could only use the simplest tools, such as sticks and rough stones, their social structure was still in the group stage, and they generally did not wear clothing apart from a few decorative objects.

South Africa was much more civilized than the Americas and Australia, but the development there was extremely uneven. The development of South Africa should be attributed to the introduction of agricultural and smelting technologies from the Asian and European civilizations; this allowed them to enter the agricultural period early on. The introduction of Islam also helped to promote cultural development.

Columbus' discovery of the American continent was a milestone in human history. He believed that he had circled the earth and reached Asia on the other side. Although Columbus died without realizing his mistake, the significance of his discovery cannot be diminished. No matter how many people had previously believed that the earth was round, it was only after Columbus' geographical discovery that this conclusion was cemented. (In reality, the first person to actually conclude a successful round the world voyage was Ferdinand Magellan.) People started to view the history of mankind through a global perspective. Before this, people had always believed the world to be composed of the Asian, African, and European continents alone. This is why the academic community generally agrees to use Columbus' discovery of the Americas as the sign of humans entering a global era.

The start of the global era is also marked by bloodshed. Spanish colonialists in the Americas began first with the plunder of gold, silver, and jewelry, and then continued relentlessly to occupy land and resources. They used trickery and betrayal to gain the trust of Native peoples, and then they brutally killed their chiefs and kings. The European colonialists who came after the Spanish killed and plundered in the same vein. Arguments vary concerning the exact number of Indians killed in the end, but one thing is for certain: the dead far outweighed the survivors. The Indians living on the West Indies suffered particularly heavy losses; they were nearly wiped out. Many Indian villages on the continent were also destroyed until few people were left alive.

As the indigenous peoples of the Americas were largely slaughtered by colonialists, a manpower shortage occurred in the development of the Americas, giving rise to the slave trade. European slave traffickers sold African slaves to the Americas for huge profits. The slave trade was extremely cruel and savage. Some information indicates that about one black slave out of every four died in the transportation process due to the harsh trafficking practices. The slave trade caused the population of Africa to terribly decrease.

The colonization of Australia did not start until the late eighteenth century. Most immigrants were criminals sent to Australia due to overcrowding in British prisons. The arrival of these people rained destruction on the aboriginal people; they killed indigenous people as if it were a hunting sport, destroying over 90 percent of the population.

With the discovery of the Americas and Australia, Western Europe started a massive expansion and colonization operation. Portugal, Spain, France, and Britain all established colonies overseas. As a late bloomer, Russia limited its expansion to its immediate surroundings. As time has proven, this kind of peripheral expansion is much more effective than overseas expansion. Today, Russia's territory ranks first in the world, the result of its continuous expansion over many centuries.

The overseas colonies established by the Europeans developed a new national consciousness over time, giving rise to continuous conflicts between them and their sovereign nations. The demands for independence by the colonies grew louder and louder, spearheaded by the thirteen British colonies in British North America. On July 4, 1776, the colonies declared independence, establishing the United States of America while the territory now known as Canada remained loyal to Britain.

Encouraged by the independence of the United States, a new wave of demands for independence arose in the colonies outside of the Americas. After a long and arduous struggle, these colonies all gained their independence.

V. Emerging from the Middle Ages

Emerging from the Middle Ages had completely opposite consequences for the East and the West. Western Europe's creativity exploded after many years of constraint, propelling it to the forefront of the world. Meanwhile, in the East, creativity, which had previously been in the lead, became inexplicably suppressed, gradually falling behind.

In Europe, the writings and ideology of Classical Era Greek rationalist thinkers had been forgotten and lost. Taken by the Arabs to study, these writings gained new splendor. When the Crusades moved East in the conquest of the Muslims, Christians unintentionally discovered these works that had originally belonged to their ancestors. They translated the works of Plato, Aristotle, Euclid, and Ptolemy from Arabic into Latin. The rediscovery of these rationalist masterpieces refreshed the minds of scholars who had long been confined by religious doctrines, igniting new sparks in the hearts of people, and finally erupting into the magnificent Renaissance movement.

The Renaissance took place from the fourteenth to the sixteenth century, starting in Italy and later extending into other parts of Europe. It flew the banner of European Classicism Revival, promoting an anti-church theocracy, anti-feudal ideology liberation movement. This movement was far-reaching in its influence; it sounded the horn for the development of modern civilization. In this movement, a large number of ideological liberation pioneers emerged, including poets, writers, playwrights, and scientists. Dante, Boccaccio, Shakespeare, Copernicus, and Bruno are some outstanding representatives.

The sixteenth-century religious reformation movement was a direct assault on the Catholic Church. The reform was sparked by the Holy See's selling of indulgences. According to the Church, people were born guilty, and only through purchasing the indulgences sold by the church could they find redemption. This was a barely disguised attempt at extortion. The frequent issuance of indulgences caused widespread resentment among the people. The German Martin Luther wrote a series of opposing articles attacking the sale of indulgences and introducing different religious ideologies. Following Luther, Calvin and King Henry VIII also spearheaded new movements of Christian doctrines.

The Protestant Reformation created a new Protestant Church, separated from the Catholic Church. Many people chose to convert to Protestantism, which was a heavy blow to the Holy See. Without the support of the Renaissance movement, this religious reform would have been impossible to achieve.

The Enlightenment movement was the second ideological liberation movement following the Renaissance. It originated in Western Europe, centered in France, but soon spread to other parts of Europe and the United States. Enlightenment thinkers held rationalism in high regard, aggressively criticizing theological dogma and resisting religious superstition with atheism. They opposed autocratic hierarchy with ideas of social equality; combated ignorance with science and knowledge; suggested freedom, equality, and universal love; and

proposed models of ideal social systems. During the Enlightenment, a number of great thinkers like Locke, Voltaire, Rousseau, Montesquieu, Grotius, Jefferson, and Paine emerged.

The Enlightenment directly led to the establishment of modern democratic countries and the advent of the Industrial Revolution, propelling Western civilization ahead of Eastern civilization to occupy center stage of the modern world and lead the development of human history.

Enlightenment thinkers designed an ideal system that would ensure democracy and freedom by separating and facilitating mutual restraint between executive power, legislative power, and judicial power. This system is also known as the separation of powers. The nation established by the American Revolution was the first modern democratic country to be built on the separation of powers.

France was the center of the Enlightenment; the outbreak of the French Revolution in 1789 was astounding. The revolution sent King Louis XVIII to the guillotine and established a modern democratic regime. The success of the French Revolution shook Europe; it was without a doubt a great threat to the feudal autocratic regimes of other European countries. Major European powers joined to forcefully intervene in the French Revolution, and it was under these circumstances that Napoleon came to power.

Napoleon was an outstanding tactical genius. The European anti-French alliance united seven times, bringing together nearly all the major countries of Europe to attack France. Under such disparaging conditions, Napoleon's army was unstoppable, occupying most of Europe at one point. However, due to an erroneous decision to attack Russia, Napoleon's forces were almost completely annihilated. In the face of a joint offensive from strong foreign enemies, Napoleon was finally defeated. Nevertheless, the great influence of the French Revolution and the personal military genius of Napoleon lingers on.

As the Western world was being shaken by phenomenal changes, the East was still continuing in its old social order, stuck in a stagnant state. In the Muslim world, Ottoman Turkey ruled the Balkans and Middle East; the state was seemingly strong, but petrifying from within. Along its European border, it could vaguely feel the changes in Europe, but it remained untouched itself.

The ruling Mughal Empire of India had once been very strong, but its sun was starting to set as well. The empire was in a divided state. This internal division—as well as the conflict between the Muslim rulers and the Hindus, who made up the majority of the population—provided opportunity for subsequent colonial invasion.

Caught between these two major Muslim powers was the Muslim Safavid Empire, located in the Iranian Plateau. During the first half of the seventeenth century, the Safavid Empire reached its heyday, but it suffered greatly through a series of peasant uprisings, thus beginning its decline.

The most closed off of all was the Chinese Empire in the Far East. During this time, China had been ruled by the Ming and Qing dynasties. Since the early days of the Ming dynasty, the Chinese Empire had adopted an isolationist strategy, not only refusing to initiate contact with the other world, but also taking strict precautions against passive contact. The empire refused to deal in foreign trade and even strictly prohibited the people from going to sea. At the same time, the Japanese Empire ruled by the Tokugawa Shogunate also adopted a closed-door policy, missing the opportunity to communicate with and learn from the West.

VI. The West Reaches Its Summit

The Western world managed to reap huge benefits during the Discovery Era. Regardless of whether the means of obtaining such benefits were righteous or not, the end results were enormously lucrative. A series of ideologically liberating movements like the Renaissance, the Reformation, and the Enlightenment produced great social evolution. They removed the shackles of religious theocracy and the fetters of feudal despotism, forming an ideological environment and social system conducive to promoting a liberation of productive forces. It was against this backdrop that a historic opportunity once again occurred in the West: the Industrial Revolution. The Industrial Revolution propelled the West from its already advantageous position to a historical peak.

The Industrial Revolution started in the mid-eighteenth century in Britain, beginning with a series of inventions in the textile industry. The invention and application of James Watt's steam engine was an important landmark, as it drove the Industrial Revolution to develop further in depth.

The true leap of the Industrial Revolution came after the merging of science and technology. In the early days of the revolution, the application of technology was based solely on the use of practical technological inventions. However, it was only possible to create simple, intuitive inventions by relying solely on experience to solve technological problems. After applying the use of scientific theory as a guide to technology, more complex and abstract inventions were created, fostering rapid development in productivity. The combination of technology and science that took place in the late nineteenth century is called the Second Industrial Revolution.

The Industrial Revolution promoted the advent of the industrial culture in human society, and it also changed the political, economic, and military order of the world. Propelled by the Industrial Revolution, the British economy grew rapidly, eventually becoming known as "the world factory." Britain's subsequent domination of the world was entirely due to the results of the Industrial Revolution. The earliest country to accept the results of the British Industrial Revolution was the United States, while France was the first to do so in Europe. Russia also embarked on the road of industrialization after its serfdom reform. At this time, Germany and Italy were still rent by disunity.

From the years 1848–1870, Italy experienced twenty-two years of bitter, tortuous struggle before finally winning its independence. Germany's unification was entirely due to the Prussian president, Bismarck. After uniting into one, Germany began to move on the world stage as a leading power.

In 1492, when Columbus discovered the New World, most nations were still living in their own fixed areas. This situation changed drastically in the middle of the nineteenth century, when almost the whole world came under the control of Europeans, the Americas included. Although most American countries had gained independence, such independence was still under European rule or in the context of European culture. This situation held true in most other continents as well.

Europeans entered Asia on a large scale during this time. As a result, the divided and overly populated Indian Mughal dynasty was slowly swallowed by constant British attacks, until it was completely occupied and became a British colony in 1849. Although China had also undergone heavy blows from peasant risings, the country was still strongly united and the Chinese army desperately resisted European invaders. Sadly, the vast disparity in weaponry and technology was difficult to surmount. Although China managed to retain a nominal

independence, it had in fact become a semicolony. The neighboring states of China were all reduced to colonies by the invaders.

Almost at the same time, Japan was also forced to sign unequal treaties under the threat of American gunboats. Although China and Japan had suffered the same fate, the two countries later adopted completely different national strategies. Suddenly aware of how far they had lagged behind, Japan went through the Meiji Restoration and received desired results. It only took them forty years or so to catch up with the pace of the world.

In 1904 and 1905, Japan and Russia broke out in large-scale war over interests in Northeast China. In that war, Japan defeated the Russian army both on land and at sea, winning a brilliant victory. The Russo-Japanese war was the first time a European country lost to a non-European country; it signified that a non-European country had entered the ranks of world powers for the first time. Prior to this, Europeans controlled all the nations and regions of the world. European history had reached an unprecedented peak.

VII. The Modern World

The great wealth brought on by the Industrial Revolution invigorated the Europeans, yet war loomed over Europe at the turn of the twentieth century. To seek military balance, Britain, Russia, France, Germany, Italy, Austria, and other strong powers struggled to find alliances. Finally, two camps formed: the Allied Powers led by Britain, France, and Russia, and the Central Powers led by Germany, Italy, and Austria. Each camp sought their own advantages in order to overwhelm their opponents; every country bargained with its opponents for their own interest, ready to sell out allies at any time. In 1914, crisis finally ignited, and the First World War broke out, quickly spreading from Europe to the entire world. At that time, World War I was unprecedented in its destruction.

During the First World War, a revolution took place in Russia that had far-reaching repercussions. The Bolsheviks of the proletarian party led by Lenin established the world's first socialist country on November 7, 1917. The victory of the Russian socialist revolution put Marx's theory into practice for the first time, profoundly impacting the world order. After this, many countries embarked on a socialist path as well; the banner of socialism covered half the world at one point.

The great destruction brought on by World War I left a deep impression on people's minds. In order to avoid similar disasters from occurring again, the leaders of the major victorious countries met to discuss an establishment that could end war. At the suggestion of US President Woodrow Wilson, the League of Nations was established as the first centralized international organization in human history. Its main purpose was to promote international cooperation and ensure international peace and security. The establishment of the League of Nations was the first important attempt to use international organizations to stop the spread of war.

Unfortunately, the League of Nations did not curb bloodshed. Only ten years later, a second world war would break out on an even larger scale. World War II once again set an unprecedented scope in the history of human warfare. The deep impressions it left were not only due to the huge casualties and destruction caused, but also due to the development and successful application of the atomic bomb. The two atomic bombs launched by the United States landed in Japan's Hiroshima and Nagasaki, instantly razing the two cities to the ground. Such

destructive power had been unimaginable to people in the past, and it led humans to question if humanity would one day be destroyed by their own scientific and technological achievements.

After the Second World War, people thought long and hard. The leaders of the major victors met again and decided to learn from the lesson of the League of Nations and form a new international organization to safeguard against war and preserve global peace. As a result, the United Nations was formally established on October 24, 1945. Shortly after the founding of the United Nations, two military and political groups, headed respectively by the United States and Russia, formed on opposing sides. The two sides existed in strained rivalry for a nearly fifty-year period known as the Cold War. Only after the collapse of the Soviet Union in 1991 did the Cold War come to an end.

The so-called Cold War was in reality quite heated. The Korean War broke out shortly after World War II, and the Vietnam War followed after that. Other minor battles ensued frequently in various other parts of the world as well. While the United Nations did its best to stop wars, it simply could not do anything once the interests of major powers were concerned. After the Cold War, the world remained strained. The United States rose to become the number one superpower, with China rising rapidly and following on its heels. Other powerful countries like Russia, Japan, Germany, Britain, and France held strong positions as well. The United Nations was powerless to stop the actions of such countries; none of the major wars that took place after the Cold War were authorized by the UN.

A new way of killing is becoming increasingly threatening: terrorist attacks. Terrorist organizations have resorted to various means to carry out large-scale attacks on innocent civilians, often leading to casualties totaling hundreds of thousands. This has become a new kind of disaster in the world.

Looking into the development and formation of human society, we can clearly see that the cycles of human society are shortening. Before the Agricultural Revolution, the changes in human society were measured in hundreds of thousands of years; after the Agricultural Revolution, they were measured in thousands of years. The Industrial Revolution further shortened that time to mere decades. In today's world, the Information Revolution and Biotechnology Revolution characterized by atomic energy development and computer technology have sped up the development of human society even more. This rapid increase in speed causes great uncertainty, and it means that the world will undergo great change every few years, or even every few decades. This change is reflected in human individuals and family units; in cities and villages; in the political, economic, and cultural aspects of a country; and in the overall world order. The driving force behind the shortening of human cycles is the power of science and technology.

We find that war and crime constantly accompany humans. The evolutionary phenomenon of internal competition where the strong bully the weak is fully demonstrated by humanity. Occupying the wealth of others for fun and sacrificing others' happiness for personal fulfillment has become an ironclad law of human society. In particular, it can be seen that war has always been a main theme of human history. Human society is built upon the killing of each other.

In their attitude towards nature, mankind went from passively adapting to nature, to actively adapting to nature, to actively adapting nature. Humans' demand for material wealth is endless, the demand on nature is endless, and the demand for science and technology is endless. No manner of wealth can satisfy this type of demand. Looking back at what we've lost and gained, we will see that material wealth did not bring happiness and satisfaction, but instead brought psychological pressure and a loss of security.

Chapter II: Methods and Principles

This book is focused on the study of humanity's fate, and it is committed to finding the answer to continued human survival and universal happiness. In order to ensure the rigorousness of scientific research, we must first determine the methods and principles of such research. These so-called methods and principles are what dictate the trajectory of our research and the criteria that research goals should be measured against. Without proper methods and principles, our research will lack direction and intent, and without correct methods and principles, the final conclusions will be wildly inaccurate or completely opposite to the truth.

SECTION II: HUMAN VALUES

The human values mentioned here refer to the needs and wishes of humans. Human values can be broken down into many categories, such as survival, happiness, pleasure, fulfillment, and so on. However, survival and happiness are humanity's most important values; all other pursuits are subservient to them. When there is conflict with the needs of survival and happiness, all other pursuits must give way.

From another point of view, survival and happiness are also instinctive pursuits of mankind, and a most basic pursuit at that. Every human individual, every human group, and humanity as a whole are striving for survival and happiness. No normal person takes survival and happiness lightly.

We say that survival and happiness are the most important values of humanity, but that is only a general concept. There is a difference between the two. If we look at survival and happiness separately, although they both have indisputable importance to humanity, they are not equally important. Obviously, survival comes first and happiness comes second.

I. Human Survival Trumps All Else

The meaning of survival is often defined in a very broad way. For example, sometimes bettering the quality of life is included in the context of survival, or survival can be equated with living. However, the survival we speak of here refers only to the existence of life—that is, to be alive. It is the more literal sense of the word "survival." As members of the human race, we obviously stand on our own human perspective when inspecting and evaluating things. We pursue happiness, pleasure, health, conscience, and morality, but the beneficiary of all these pursuits are humans. Without life, no such pursuits would exist. People toil for life every day; farmers work in the field from dawn to dusk, workers manufacture products at all hours. Without life, they would not be able to accomplish any of this, and without life, they would not gain anything in return. Our scholars and politicians worry about the problems in society. They discuss and plan for environmental issues, resource shortages, and peace maneuvers. All of these carefully designed economic, cultural, and social constructions are carried out based on humanity. Without humans, none of these arrangements would have subjects to act on. These arrangements also rely on humans to complete them; without human existence, there would be no one to

discuss, plan, and arrange things. Thus, we say that survival trumps all else. Survival is the number one, unparalleled human value. Nothing exists without survival.

Survival is also the number one instinct of mankind. When a person encounters harsh challenges, their desire to survive can propel them to do previously unimaginable things. A weak person can hold up things of incredible weight; a disabled person can suddenly stand. Countless real-life examples prove that when it comes to life and death, survival can make the most of a person's potential and create remarkable miracles. This upholds the argument that survival is the most important human value.

The pursuit of survival can be extended from human individuals to human groups, or even all humanity. No matter if it is a country, a nation, a group like an organization, or the whole of mankind, self-survival always remains the goal above all else. If self-survival cannot be guaranteed, all other pursuits are empty. The carrier of all human pursuits is the survival of mankind itself.

II. Happiness—the Eternal Human Pursuit

Happiness is an eternal human pursuit; that is a universal, fundamental truth. Happiness is the purpose of life; all human life is spent in the pursuit of happiness. Defining happiness is much more difficult than defining survival. What is happiness? How is it obtained? In people's minds, these questions are often vague and confused. Everyone is pursuing happiness, and everyone wants to be happy, but few people clearly understand what they are pursuing in life. Even fewer people manage to hold on to that choice and maintain it relentlessly.

Happiness should be described as an emotion, a satisfaction, and peace of mind. Those with money, status, and honors may not necessarily be happy, while someone who is penniless could very well have happiness. The psychedelic pleasure brought on by drugs is not true happiness, but the mother who bears the pain of childbirth is truly happy. The reason for all this lies in the satisfaction and peace of the mind.

Happiness comes from hope; one cannot be happy without hope. If today is an improvement upon the day before, and tomorrow is expected to be even better than today, the soul will be happy and satisfied. Contrarily, if life deteriorates day by day, happiness will be elusive. Happiness is especially present in the comparative sense of hope. If living standards have been increasing quickly for the past decade, a sudden slowing down of such increase would interrupt peace of mind. Although today would still be better than yesterday, the increase rate has slowed down compared to before, making it hard to feel as happy as before. The same conditions may bring different levels of happiness under different circumstances. If your daily standard of living was ten dollars ten years ago, you might have been happy. But if your daily standard of living was still ten dollars ten years later in the exact same living environment, not only would you not be happy, but you might be very pained and disappointed. That is because ten years ago your life was good compared to those around you, but after ten years, everyone else's living condition has improved with only you left behind, thus destroying your peace of mind.

True wealth is the absence of greed, so happiness is dependent upon satisfaction of the soul. Greedy people cannot be satisfied even with mountains of gold, while content people are happy with just bread and water. The reason the rich are not necessarily happy is that they wish for even more wealth. The poor may be able to obtain happiness if they have less lofty pursuits . . . perhaps basic food and clothing may suffice. A person's happiness

is largely determined by their desires; the easier it is to achieve such desires, the easier it will be to feel happy, and the opposite applies as well.

It may help to understand happiness by examining the psychological changes Chinese people have gone through in the past forty years. Forty years ago, we were in the Mao era. The entire country was poor, and in our isolated state we did not know the situation abroad, so we thought that was how the world should be. Therefore, people often found happiness even in their impoverished state. After China's reform, the nation's economy developed rapidly. As the overall standard of living improved, the gap between rich and poor widened as well, and the community became increasingly restless. Those who lagged behind development-wise were often unhappy and disappointed, even though their lives had improved. All they could see was that their neighbors had just replaced their bikes with cars when they themselves had just bought bikes; and their neighbors had upgraded their dwellings from fifty-square meters to one-hundred-square meters to one hundred-andfifty- square meters, but they themselves had just moved into a one-hundredsquare meter room.

Hence, peace of mind is produced in comparison. This comparison can be with the surrounding population and environment, with our own past, or with our desires. If an entrepreneur who had originally planned for the company's earnings to reach ten million this year only achieved five million, he would certainly not be happy. But if he objectively analyzed his business at the beginning of the year and set the profit target at one million, he would undoubtedly be happy with a five million figure. With the same five million profits and the same entrepreneur, the feelings of happiness can be completely different. This is due to the change in satisfaction one experiences through comparison.

We often lament that happiness is cheap . . . so cheap that even a penniless man can experience it. But happiness also costs dearly, so much so that even billionaires cannot afford it. To be happy we must also feel secure. If we existed in constant terror over war and murder, it would be difficult to feel happy. A stable, peaceful society, on the other hand, provides better conditions for happiness. Happiness is not entirely dependent on the amount of wealth one possesses, but it does require some economic support. One who lives barely clothed, constantly hungry, and always cold can hardly feel happy. Happiness also depends on healthiness of body, as it is hard to feel happy when constantly suffering from illness. Happiness is inseparable from joy and pleasure, but they are not one and the same. Joy and pleasure are natural experiences, while happiness is the combination of natural experiences and reflections of the soul. Engaging in sexual activities with someone you do not love may produce a temporary pleasure, but it will not produce happiness; enjoying the stimulation of drugs and alcohol may be somewhat joyful, but not necessarily happy.

Happiness goes hand in hand with suffering. Without experiencing pain, one cannot understand true happiness, just as one who has never failed cannot understand the joys of victory. Only those who have suffered the destruction of war can truly understand the beauty of peace.

Suffering is happiness' mirror. Only those who have suffered in the past cherish and find satisfaction in the present. The suffering of others can also be a mirror into one's own happiness, for the suffering of others can reflect the happiness we possess. Happiness is continuously gained through an eternal pursuit. There is no absolute happiness, just as there is no eternal happiness. Life always has imperfections; there cannot be perfection without such imperfections.

Happiness is influenced by one's outlook on life. Different life views produce different feelings of happiness. Terrorists see the killing of innocent civilians in retaliation against their political opponents as a kind of

happiness; war maniacs view conquering the world, killing, and plundering from others as happiness; a noble person gains happiness from contributing to others; loving parents find happiness in caring for their children and watching them grow up happy and healthy; devoted children find happiness in caring for their elders.

Because of this, the pursuit of happiness can be guided. The ethical and moral aspects of life value are dictated by social history. Different times and cultural backgrounds form different life values and different views of happiness. In history, we can often see noble people sacrifice boldly for their ideals and feel deeply happy doing so. These ideals are a type of life value; they can dictate people's feelings of happiness.

We can break down life pursuits into detailed and specific components such as food, clothing, residence, travel, wealth, status, achievements, familial affection, love, friendship, health, environment, and morality. At a cursory glance, satisfying any of the above pursuits can make some people feel happy while failing to do so for others. Just as one person can feel happiness from enjoying a good meal, another might only feel slightly happy from it, or no happiness at all. When measuring from the standpoint of all humanity, all of the above can be included in the scope of happiness, but none of them can be equated to happiness. Happiness includes all the above components, yet it is not the result of all of the above combined. It should be said that the pursuit of any abovementioned component is only one small portion of the happiness map.

A person can have any number of pursuits, but only by pursuing their main goal in life and achieving correspondingly can they experience happiness. Achievements in all other pursuits can only produce joy, pleasure, or other similar emotions. For example, if a woman saw a happy family as the primary goal in her life, she would feel happy once she reaches this goal; perhaps buying an unflattering set of clothing might frustrate her sometimes, but it would not change the satisfaction and peace of mind deep within her. If a man deemed a successful career as the number one goal in his life, he may experience joy from a glass of good wine, but it would not be able to undo the sense of disappointment and misfortune brought on by professional failure.

The main goals in life can be adjusted and changed. For example, a woman who fails in the pursuit of a happy family may turn towards a successful career, and a man who fails in his pursuit of business may change his focus to a happy family. Similarly, the main goal of a person's life before the age of thirty may be a high degree of education from university or a PhD, but after age thirty, one may adjust their life's goal to more specific areas like business or politics. Once this person enters old age, their life focus may change to health and family harmony. No matter the type of goal, as long as it is the main goal during that stage of life, its pursuit may produce happiness or unhappiness, depending on the situation.

Further expanding the concept of happiness from individual to group and even all of humanity, the same goals exist and can be adjusted accordingly as well. A nation may wish to be respected by other nations, and a country may want to dominate the world. To them, respect can produce national pride, and world domination can acquire additional wealth. If this nation or this country cannot achieve their goals, they may turn to simpler goals like peaceful coexistence, or not being invaded or occupied by other countries. Therefore, from the perspective and interests of all mankind, we cannot only consider whether humans can survive and reproduce endlessly, but we must also consider whether our generation and future generations can exist in peace and prosperity. Whether on an individual level, a group level, or the level of all mankind, the pursuit of happiness is eternal and innate.

SECTION II: THE VALUE OF SOCIAL SYSTEMS

The realization of human values depends not only on natural factors, but also on social systems. “Social systems” as discussed here is a broad term refer-ring to all social conditions related to the operation of human society. In addition to the basic governing systems we usually refer to, various other mechanisms, rules, and behaviors such as social patterns, social structures, political systems, legal systems, moral values, codes of conduct, economic and culture policies, and so on are also included. The value of social systems refers to the social conditions that must be ensured in order to safeguard the orderly operation of human society.

We have established that survival and happiness are the highest of human values, and we also know that survival and happiness are the basic pursuits of humanity, yet we often find that many people chose to die in the face of life and death; many people chose pain instead of happiness. These people are completely willing in their choice as they experience no regrets, and future generations respect and admire them for their actions. Such phenomena occur because humans rely on a set of social values when making choices in their own pursuits.

Soldiers on the battlefield charge fearlessly to their death, sacrificing their own lives in defense of their countries. In dire situations, parents would rather end their lives to ensure the survival and happiness of their children. It is faith and emotion that helps people to overcome the fear of death and to sacrifice their highest value—that is, survival—for the benefit of others.

A wife may give up her beloved career to take care of her family and support her husband’s work. An elder brother may willingly give up valuable education opportunities and start work early to support his younger brother through school. Such stories of sacrifice are abundant, for some of us measure choices against other criteria—the criteria of social values.

This does not mean that survival and happiness are not important, nor does it negate that survival and happiness are the highest values of humanity. The truth is just the opposite. Life is most precious for everyone, and anyone who lives desires happiness above all. It is only certain specific conditions of human society that require someone to sacrifice their own survival or happiness for something, or some things. If this cannot be done, human society will lose its procedures of operation, and humans themselves will lose faith in their existence. It is through a long history of development that human society finally established its own social systems.

It is necessary to restrict the values of mankind with social systems. Imagine two climbers trapped on the top of a mountain in a snowstorm with limited food. One climber might kill the other and take his food to survive. In a few days, once the snow stops, this climber might be rescued while his teammate dies. Actions like these base the survival of self upon the death of others. Hitler invaded and occupied many other countries, killing millions of Jews in the process, just to pursue better living conditions for the Germans. This is basing self-fulfillment and happiness upon the suffering and death of others.

Every individual and every group seeks to secure their own survival and ensure their own dreams of happiness. However, the pursuit of survival and happiness must be through proper means, and all aspects of social operation should follow certain rules. If everyone used despicable means to obtain survival and happiness without considering others, the world would be filled with fraud, bloodshed, and terror, and human society

would lose all rules and procedure. This would inevitably lead to total chaos; humans as a whole would no longer have a chance for survival and happiness.

Therefore, it is necessary to use a series of social systems to serve and maintain human values. Only by limiting certain people from obtaining values through unjust means and guiding everyone to live, learn, and work along certain rules, and maintaining interaction between groups, can human society's orderly operation be ensured—and, along with it, the realization of universal human values.

I. The Maximum Value Principle

Social systems in all aspects of human society are established under certain conditions. There will always be corresponding social systems as long as there is human society. Take social forms, for example. Human society transitioned from the earliest migrant gathering period to settled villages, then to the tribal stage, and finally to the national stage that continues until this day. The evolution of social forms was to adapt better to humans' ever-expanding needs in agricultural production and the enlarging scope of war. In another example, countries have each established their own different political, economic, and cultural systems and defined them in legal terms in order to regulate individual behavior and ensure the stability of society. From a much smaller perspective, every city, street, community, and country has its own set of management models. They each promote a set of lifestyles or codes of conduct appropriate to the community. All of these are within the category of social systems.

The most essential function of social systems is to serve people; it is either consciously or unconsciously formed by prevailing local circumstances, or specifically designed and promoted by a certain power. Because social systems have to regulate and mandate all aspects of society, some of them will restrict and limit the realization of certain human values. However, this restriction only exists to ensure the realization of other major human values. The state enacts laws against homicide, theft, and robbery; this undoubtedly limits the wrongful acts of the lawless, but it is precisely this legal protection that allows the vast majority of people to live peacefully in a safe environment. Such legal systems are social systems that guarantee the values of the majority by limiting the values of a smaller group.

To cite another example, a city may develop rules forbidding littering and spitting in public to ensure the cleanliness of the city. This social system would also limit the behavior of a small number of people, but it would be to protect the clean-living environment of all city dwellers. In other words, it is limiting some less important values for a small group of people to realize the more important values of the whole city.

There are some social systems that limit the values of the majority to serve the values of a small number of people, such as when authoritarian kings demand frequent tributes of treasure, fruit, and beautiful women from all over the country. This is also a type of social system, implemented by the mandatory power of feudal dynasties.

There are also some social systems that fully serve the public and affect no one's values. For instance, the city government may establish a mayoral service hotline to solve the problems people encounter every day. This type of social system generally only has beneficiaries, and no person's interests are harmed in the process.

Social systems pertain to all facets of human society; they involve the values of every individual and group. Each person and group will evaluate a social system from their own point of view. How should we define the quality of a social system? What characteristics should an ideal social system have?

Social systems exist to serve human beings. Since different individuals and groups from different generations have differing or even contradictory needs, no one group or generation of people can objectively evaluate a social system. It is argued here that social systems should be established with all of humanity in mind so that the values of mankind as a whole can be maximized. In other words, the whole of humanity should be considered in these systems instead of just individuals, singular groups, or specific generations. Survival, happiness, and other human values should be guaranteed for as many people as possible. This is the fundamental principle that social systems should be built upon. We refer to it here as the "maximum value" principle.

The maximum value principle does not change with the development of society, nor does it alter according to the passage of time. Perhaps one day all the issues discussed in this book will be outdated, but the maximum value principle will not become obsolete. The maximum value principle is the core principle that governs all the research in this book.

As human beings, when we think about ourselves and plan for our future, we obviously hope that all arrangements are aligned as much as possible with our own interests. The problem is that the interests of mankind are multi-faceted—there are many types of values to pursue. The acts of mankind and the multitude of designs we implement for the future of humanity cannot fully satisfy all the values of every individual, group, and generation. A plan that satisfies certain values may be in conflict with other values; when the values of a certain group of people are satisfied, the values of other parts of the population may be damaged. This is completely normal; nothing can be 100 percent perfect, and no plan can be flawless. Loss and gain go hand in hand; this contradiction will apply to the design and evaluation of any social system. The solution to this contradiction lies in the maximum value principle; the good of the majority outweighs the good of the few, and the actions that cause least harm win out.

As we know, the two most important human values are first, survival, and second, happiness. Relative to these two, all other values are subservient. If we look at value systems through such direct lenses, it is easy to manage them. Any issue related to survival comes first, any issue pertaining to happiness comes second, and all other values follow accordingly. Yet if one really dealt with problems this way, it would cause certain chaos. For example, conflicts and contradictions between individuals and countries often exist, and if one simply emphasized the survival and happiness of one party, the other party's survival and happiness would inevitably be negatively affected. When facing a variety of complex value choices, how would we practically implement the maximum value principle?

1. Happiness Defers to Survival

When considering human values, we will separate humanity into four levels: all humans, human groups, human individuals, and intergenerational humans. "All humans" (or humanity) refers to the whole of mankind and all peoples from all generations; "human groups" includes all manners of assemblies (like countries, nations, businesses, etc.) and non-organized groups; "human individuals" denotes singular individuals or small minorities; and "intergenerational humans" refers to people from different generations.

When we say that “happiness defers to survival,” we mean that when the survival and happiness of humans on a similar scale are in conflict, we must consider survival first and happiness second. This is very simple logic. Since survival outranks happiness when dealing with the same amount of people, happiness must give way to survival during any conflict between the two. The survival of people is more important than the happiness of that same amount of people.

It follows that we cannot deprive ten people of their lives to ensure the happiness of ten other people. On the contrary, if ten people must sacrifice their happiness in exchange for the lives of ten others, that would be a worthwhile exchange of values. According to this principle of deference, anyone who kills another in order to seize their property and wealth is defying the principle of happiness defers to survival. Since the acquisition of wealth is only one category of happiness (not even the whole scope), while life is the entirety of survival, exchanging one for the other is comparatively unreasonable. Of course, this is just a simple value analysis. It does not take into account social factors. The killing and robbing of others is in itself an immoral behavior. If such behavior were allowed to spread in human society, it would inescapably lead to upset, thus affecting the survival and happiness of humans on an even larger scale.

Take another example: if a person was terminally ill and in need of $200,000 to cover medical expenses, would he be justified in robbing someone else and using the “survival trumps happiness” rule to defend his actions? Certainly not. If we simply considered one person’s survival and another person’s money as belonging respectively to the scope of survival and happiness, this value exchange would certainly seem worth it. However, if robbery or other forms of forced possession are utilized, adverse results would occur. Such adverse results would lead to social instability, and many people’s survival and happiness would be threatened. The question boils down to a choice between one person’s survival and the survival and happiness of many people, and the latter obviously outweighs the former. If one person willingly donated $200,000 in savings to save another person’s life, the meaning would be completely different.

The value principles determined here are designed precisely to consider the concept of comprehensive influence. All other value principles discussed in the following take this concept into consideration as well.

2. The Majority Rule

The majority rule stipulates that in terms of survival, happiness, and other values, when assessing within the same value category, the values of the majority are deemed most important. In other words, if the lives of ten people had to be exchanged for the lives of twenty, the value exchange would be meaningful; along the same vein, if the happiness of ten people had to be sacrificed to ensure the happiness of twenty others, that value exchange would also be worthwhile. If the situation were to be reversed, it would not correspond to the maximum value principle.

It is important to note that the majority rule compares different numbers of people within the same value component on things of similar import. The rule cannot be applied if the value component is different—that is to say, the survival of ten people cannot be compared to the happiness of twenty others, and a certain portion of the happiness of ten people cannot be compared to another portion of happiness for fifteen others.

3. Assessments Must Be Flexible

It is obvious that both the happiness defers to survival principle and the majority rule are ideal codes that deal with simple situations. In simple situations, the assessment of values is clear at a glance. A person's life is obviously more important than a person's happiness; two people's happiness is obviously more important than that of one, and two people's lives obviously outweigh one person's life. This type of simple value assessment is indeed easily defined.

When it comes to actual problems, the situation will often be far from simple. We will find that we must compare ten people's lives to the happiness of a thousand others, or parts of ten people's happiness must be compared with other parts of ten other people's happiness. These problems complicate the situation; under such conditions, flexibility becomes the key.

For example, the progress of science and technology brought the advent of cars and aircraft as means of transportation, and they can quickly send people across great distances. A car's one- hour journey on the highway takes days to walk, and the one-hour flight time of a plane equals weeks of journeying by foot. The use of these vehicles makes people's lives more convenient, relaxed, and efficient; these attributes are all within the scope of happiness. However, the emergence of cars and airplanes also means the appearance of car accidents and plane crashes. People die every day due to car or aircraft accidents. In terms of human values, loss of life is within the scope of survival. If we use the principle of happiness defers to survival as our reasoning, all cars and planes should be destroyed. This conclusion is clearly ridiculous, as the use of cars and aircraft facilitates all of mankind and brings great happiness to humanity. In comparison, car accidents and plane crashes occur relatively infrequently, meaning they pose minimal threat to the survival of humans. When the potential for great happiness conflicts with miniscule threat to survival, happiness ranks first.

Perhaps a group of people needs to be diverted to build a reservoir. These people have lived here for generations, and removing them from their homes would be very inconvenient. They would also have difficulty adapting to a new environment and building a new life. The building of the reservoir would also require a great amount of capital; however, the successful completion of the reservoir could solve many people's agricultural irrigation problems. For the migrants, moving would be inconvenient, thus making it part of the happiness value. The investment of capital would be a loss in the happiness category as well. For the beneficiaries, the gain would be a rich crop, which would bring a better quality of life, which also fits within the happiness category. These different aspects of happiness cannot be simply compared, so one would have to employ some flexible thinking when deciding whether or not to build this reservoir. Perhaps under certain investments situations, moving one hundred people could only solve irrigation problems for one thousand farmers, in which case it would not be worthwhile to build the reservoir. On the other hand, if moving one hundred people could solve ten thousand people's irrigation problems, the reservoir would be necessary.

Based on the above judgments, we can draw two clear conclusions: First, the survival of mankind is the highest of all values. Since survival is the number one value, and humanity as a whole outweighs all else in magnitude, the survival of all humanity outweighs everything else. All other values must exist secondary to the survival of mankind. This conclusion informs us that in all problems involving humans, the survival of the species is the most important problem (the focus of this book is on solving this problem as well). In the face of overall human survival, all other values can be sacrificed. Any action that threatens the survival of humanity just to guarantee other values is contrary to the maximum value principle.

The second conclusion is that within the value of happiness, the happiness of all people outranks all other values of happiness. Inside the happiness value, humanity occupies the largest share in quantity. According to

the majority rule, universal happiness is most important (this is the other issue this book deals with). No individual, group, or generation can threaten the universal happiness of humanity for their own happiness, as that would contradict the maximum value principle.

The two above conclusions will be the two fundamental bases that guide this book's research. These two conclusions seem easy to understand and obviously correct, but it is very difficult to consistently and constantly follow them. In the subsequent analysis, we will discover that we have done and are still doing things that threaten the overall values of humanity, and that these actions sometimes seriously endanger the overall survival of mankind. Judging based on the maximum value principle, such actions are clearly big mistakes; they are most unforgivable crimes and also extremely dangerous behavior.

II. Justice

To achieve the maximum value principle, social systems must first be just. Justice is the value of social systems; it is the actual embodiment of the maximum value principle within a social system. If the maximum value principle establishes the standards and goals for social systems, justice is the means and path to achieve such goals.

As the value of social systems, justice includes two meanings: fairness and reason. This so-called fairness basically means impartiality and equality. The vast world encompasses countless beings, billions of human individuals, countless different human groups (such as different countries, different nationalities, different enterprises, different institutions, etc.), and peoples of all generations. Justice requires equal and impartial rights for all human individuals, groups, and generations. Any individual, group, or person from any generation should have the right to equally obtain respective values. This not only requires all individuals, groups, and intergenerational peoples to refrain from depriving others to ensure personal gain, but to be equal and impartial in the distribution of assets and interests.

The reason we say the maximum value principle requires fairness before all is because some people will inevitably occupy more interests in an unjust society; therefore, other people will enjoy less interest, and these people's values will be impaired. This is only the beginning. Those who seize more interests will definitely be those who control dominant power and resources; they obtain more interests because they have the ability and conditions to do so. Due to the nature of mankind, such abilities and conditions will lead these people to focus even more social interests in favor of themselves. The final result will be that a minority of people enjoy the majority of interests, and they will only accumulate more interests as time goes by. At the same time, the number of people who profit less will grow while the portion of interest they can share in will shrink more and more. Therefore, the ultimate outcome of an unjust society is that the value of most people cannot be achieved, and this obviously does not meet the maximum value principle.

An unjust social system will also propel a very small number of people to seize value from others through immoral means (such as murder, robbery, etc.) in order to ensure personal gain. This would unsettle the entire society, and the vast majority of people would suffer. It would obviously be contradictory to the maximum value principle.

The significance of fairness also lies in the universal pursuit of happiness. Happiness is a product of comparison; only in a just, equal society could the majority of people attain happiness through comparison. The so-called reason means that social systems must consider the characteristics of humans and human society—as well as human adaptation to natural conditions—in order to exist scientifically and realistically.

For example, historians generally believe contemporary humans to be less happy than ancient humans. Today's world is far more just and equal com-pared to ancient times; the material wealth produced by current technology also far outweighs what has been created in the past. Under these conditions, humans today are less happy than those before us. This obviously means that there are seriously unreasonable factors in our current social system. It is the unreasonable factors in our social system that lead to a reduction in overall human happiness.

It seems that fairness alone cannot guarantee the realization of the maximum value principle, just as humans' survival could not be ensured in a fair society that was plagued by war. And if people were constantly under various types of competitive pressures, the heavy psychological burden would rob them of joy, thus negating their happiness. A just social system that can realize the maximum value principle must not only be equal and fair, but also a combination of science, realism, justice, and reason.

Enlightenment thinkers proposed the slogan of "freedom, equality, and universal love." This slogan guided human society from superstition and ignorance to civilization. Taken literally, "equality" and "universal love" refer to fairness, while "freedom" refers to reason. This informs us that human society cannot be just "fair" and "universally loving," but must also ensure freedom.

A fully just social system's reason factor denotes much more than just freedom. Many other aspects must be realized to ensure the maximum value principle. In today's world, most people experience more freedom than before under the ideals of freedom, equality, and universal love, yet they do not experience as much happiness; the highly educated class of today has far more freedom consciousness compared to villagers in remote areas, yet due to the higher level of psychological pressure, they also feel less happy.

All this shows that the reason factor in social systems includes far more than just freedom.

The organic combination of fairness and reason is the key to establishing a harmonious and stable society of justice. The downfall of many regimes in human history resulted from the lack of a good relationship between fairness and reason. For example, the wealth of one affluent group (such as a family) might be accumulated through the efforts of many generations. It would be reasonably acquired. However, if the entire society were suffering in poverty, the wealth of minorities would seem incredibly unfair. Most of the uprisings, rebellions, and social unrest in history happened under the slogan of equalizing wealth and bridging divide. There is an old saying in China: "Poverty is not a problem . . . imbalance is." If a regime wishes to ensure long-term stability, reason is not enough. Fairness must also be safeguarded.

On the other hand, if too much emphasis was put on fairness, and reason was ignored in the process, new problems would arise. If the reasonable wealth of the elite class was excessively deprived, it would damage their productivity and enthusiasm, the overall prosperity of the society would fall, and a general state of poverty might occur. Mao Zedong Era China and today's North Korea are all such cases.

When conducting an in-depth analysis on the justice of social systems, we can divide justice into four aspects for discussion: individual justice, group justice, intergenerational justice, and overall justice. The moral values of society encourage people to give up important personal values and exchange their own survival and happiness for that of others under specific conditions. It also opposes the establishment of personal survival and happiness upon the death and suffering of others. This is all within the scope of individual justice. We propose that everyone is equal before the law; every citizen has the right to vote and be voted for, and everyone is assigned benefits according to how much they contribute. These are all in the range of individual justice.

We oppose strong countries, nations, and religious groups who bully weaker ones; we condemn groups who invade, pillage, and commit murder against other countries, nations, or religious groups for personal gain. We advocate for equality and neighborliness between countries and nations; we encourage wealthier countries to support poorer countries, and developed areas to help undeveloped areas. All this is in the scope of group justice. We advocate for fair trade between enterprises and oppose monopoly as well as trade protectionism. This also belongs within group justice.

We oppose the uncontrolled exploitation of non-renewable resources to circumvent resource depletion; we protest excessive grazing, over-cultivation, and deforestation to prevent desertification; we are against the large-scale emission of greenhouse gases to avert global warming; and we contest the use of Freon in order to preserve the ozone layer from damage. We take these pre-cautions to leave clear waters and blue skies for the future generation and to ensure sustainable development for human society. This is within the scope of intergenerational justice.

Whether it is individual justice, group justice, or intergenerational justice, they all revolve around the theme of "fairness." They deal with relationships between individuals, groups, and people of different generations. In addition to this, human society must also balance its overall fairness. In other words, some things that may not seem fair from a partial view would be fair to the whole society, because the overall interests of mankind sometimes require the sacrifice of partial interests—just as the maximum value principle requires the few to obey the majority (the majority rule). This issue belongs in the category of overall justice.

The overall value of human society, however, may not always be able to be realized at maximum, just as some fair principles may not bring universal survival security and happiness. That is due to the unreasonable factors within such social systems. Within the context of justice, certain parts are devoted to considering rationality based on the whole of mankind. The purpose of such consideration is to realize as many values as possible for all human beings. This is also within the scope of overall justice. Overall justice requires smaller interests to serve larger interests; it opposes the placement of individual interests before group interests, and group interests before overall interests. Nevertheless, we often see countries putting their own interests above global interests while the international community remains helpless to stop them. This is caused by the unreasonableness of social systems.

Looking at the current world from another perspective, we find that human society today is fiercely competitive. People are under constant pres-sure to update knowledge and under constant threat from competition failure. Depression becomes common and the suicide rate climbs continuously. Generally speaking, while people have obtained a level of material enjoyment, they have not obtained similar levels of happiness; instead, they are burdened by heavy mental stress. This is a cause of unreasonable social systems.

Overall justice also considers things based on humans as a species. It deals with the relationship between mankind and other species, as well as the relationship between nature and man. As human beings, we should develop principles of justice from our own point of view. That is why we propose that the overall survival of mankind exists above all else. Any factor that could possibly endanger our survival must be mercilessly eliminated. Perhaps these factors involve the survival of other species, or other issues, but every other problem becomes insignificant in the face of human survival as a whole. Because we are humanity, we cannot sacrifice our entire existence to achieve some sort of morality. Once morality leaves its bearer, it will have no more purpose.

Similarly, for humans as a whole, we cannot sacrifice our universal happiness for the survival of other species, nor can we sacrifice our own happiness as a species to ensure the happiness of other species. The justice principles we formulate must serve the survival, happiness, and other values of humanity; they should maximize the achievement of universal human values. This is both logical and reasonable.

Judging according to the principle of overall justice, Americans like eating beef, Arabs love mutton, the Chinese people like eating pork, and Koreans love dog meat. This dietary issue does not pertain to human survival, since humanity can survive on grains and vegetables. Yet humans require delicious food, and this demand is within the category of human happiness—in other words, the demand for meat satisfies some of the needs for human happiness. And so humans slaughter large numbers of other animals every day, exchanging their lives for our own happy appetites. Relative to other species, humans are immoral. But based on humanity as a whole, the justice principle must serve human values, making this immoral exchange understandable.

The justice principle has also put forth requirements for humans accordingly. We object to the torture of animals, the devastation of rare species, the destruction of the earth, and the pollution of space. In reality, not only do such requirements not conflict with humanity's happiness and survival, but they fundamentally help humans achieve their values. A caring group can better promote world peace and harmony, a bio-diverse world can better achieve natural unity, and a beautiful earth and clean space is more conducive to human life and guarantees better long-term survival and happiness for future generations of mankind.

Finally, it is necessary to note that there is no affiliation or mutually inclusive relationship between individual justice, group justice, intergenerational justice, and overall justice. They are different social system requirements put forth by different factors from different perspectives.

SECTION III:THE FAR-REACHING PRINCIPLE

This book is devoted to the far-reaching, universal, and fundamental interests of mankind. It considers the fate and future of mankind. In order to explore corresponding issues in depth and propose solutions, we will start our research from a more extraordinary point of view. This research approach can be summed up in one term: the far-reaching principle. This principle has two characteristics: first, it seeks to be as broad as possible in its expanse; second, it strives to be as enduring as possible in terms of time.

I. A Broad Expanse

Humans live on Earth as terrestrial creatures, but even with the simplest experience we can determine that the fate and future of man is not influenced by isolated land factors alone. Without evaporation from the ocean there would not be enough rain, without plate movement there would be no mountains or rivers, and without the atmosphere humans could not breathe. This is all intuitive information. To interpret the fate and future of mankind, we cannot limit our focus to the land, as the entire globe, as well as the atmosphere around it, is essentially linked to the fate and future of humanity.

Even the elements listed above are not the whole picture. For example, the magnetic field above Earth's atmosphere prevents cosmic rays and solar winds from attacking us, and beyond Earth's magnetic field lies the solar magnetic field, which influences humans constantly as well. These are all things that cannot be directly observed by the naked eye, but they objectively exist. Therefore, we should expand the scope of research as well.

We all know that Earth is just an extremely small planet in the vast universe, yet the vast universe constantly affects the small Earth we live on as well as its inhabitants. Looking to the solar system, the moon affects the tides of Earth every day; solar flares explode many times every year, influencing us in many ways; asteroids and comets experience large collisions with Earth every few centuries. Looking out to the larger Milky Way, and even the entire universe, the possibility of alien invasion, the impact of supernova eruptions on Earth, and the possible threats posed by black holes are all issues closely related to the fate of mankind.

Perhaps we are overthinking some things, as some of these elements are much too far away from us, and their potential impact seems unfounded as of yet. However, if we do extend and broaden the expanse of our vision, how can we eliminate the factors not worth considering and capture the elements that really do pose a threat to mankind?

II. An Endurance of Time

We know that human beings have only entered civilized society for less than tens of thousands of years, but the earliest concept of man formed about four million years ago when the Australopithecus first separated man from primates by standing up. If we take into account the original human breeding process, the earliest life on Earth can be traced back to 4.28 billion years ago. So how far into the future should we look when considering the fate of mankind?

Today's world is growing at a rapid pace. The Industrial Revolution greatly stimulated the creativity of science and technology; as a result, our world is constantly changing every day. From this standpoint, it is enough to set human future research goals to ten years or a hundred years, since we cannot possibly know what the world may be like in ten or a hundred years. The changes to the world after such periods of time will most definitely be drastic, so perhaps that is the only thing we can accurately predict.

From the future view of humans as a species, we can almost be certain that although we entered the threshold of humanity some four million years ago, humans should not be extinct in four million years. Humans are the

strongest of all Earth's creatures; we are complex life-forms that are the most capable of adapting to the environment in the entire history of Earth's biology.

So how far away should we cast our net? Since this research focuses on the future of humanity on a far-reaching, universal, and fundamental level, ten or a hundred years is much too short a scale. Should we set our eyes on four million years later? A billion years later? Or even further off? The book's foothold is the latter.

What must be noted is that the billion-year goal just acts as a mirror in order to reflect current issues. Realistically speaking, things happening in mil- lions, hundreds of millions, and billions of years are only predictable, and no accurate judgments can be made. On the contrary, many things that might come in a decade or century cannot be predicted or grasped. In particular, it is important to emphasize that everything we do today is affecting the world of the future in increasingly serious ways.

At the end of the nineteenth century, people exclaimed that more had been done in the one hundred years of the nineteenth century than since the birth of humans; at the turn of the twentieth century, people exclaimed once again that the century had accomplished more than all else previously accumulated, including the one hundred years of the nineteenth century and all human history before that. This undoubtedly tells us that humanity's ability to transform themselves and nature is growing a hundredfold, a thousand fold, and more. Perhaps one act of wrongdoing today could not be made up for with even a hundred years of effort in the future... it could even be irreversible. If we do not use a billion-year goal as a mirror, we cannot scientifically plan for today and tomorrow. Without such a far-reaching mirror, we cannot truly realize the long-term, universal, and fundamental interests of humanity, correct our mistakes in a timely manner, and maintain our path on the right direction for years to come.

Using billions of years as our research scale does not mean our focus is on what we should do in a billion years—that is a research topic better left to the future generations. Although the expanse of this research goes to the very edges of the universe, it is not focused on journeying into the depth of the universe to accomplish something either, as such a goal would be quite meaningless. On the contrary, our entire purpose is to use a time period of billions of years and a spatial scope of tens of billions of light-years as an investigation scope and reference target. This will guide our actions for today and the near future, making sure that everything we do is in line with the long-term, global, and fundamental interests of humanity.

Therefore, the far-reaching principle is actually based in reality. It is just a research method that seeks to make our research considerations more pro- found, comprehensive, and meticulous. It is still intent on solving issues of mankind today and in the near future. Although such a principle may inconvenience our research, it can make our research conclusions more objective and scientific.

Chapter III: External Threat

External threat, i.e. natural threat, signifies all kinds of other factors except human being causes, which are likely to endanger the survival of human being. External and internal factors endangering the survival of human being constitute together the whole factors endangering the survival of human being.

All external threats influencing greatly the survival of human being are attempted to be selected here, especially those influencing the overall survival of human being. And the factors really threatening the overall survival of human being are further selected through the in-depth study and analysis of factors, which are possible to threaten the survival of human being.

Section I: Threat on Universe

Standing on the earth, seeing towering mountains, mighty rivers and magnificent sea, we often exclaim over the greatness of the earth. While actually in universe, the earth is a small member of the star system of sun, containing only 340 thousandth of solar system and bounded completely by the sun.

In vast universe, the sun plays an even smaller role comparing with that of the earth in solar system. As a star system, the sun shares only one twentieth billion of the Milky Way and the Milky Way contains less than one thirtieth billion of the universes. So it’s not excessive to say that the sun is only a drop of water or a sand of mountain in the universe.

For threat of universe on human being, firstly it should be considered integrate with the earth, because human being is impossible to survive with the earth in major problems; Then the earth should be considered integrate with the sun, because the earth is bounded by the sun, thus if the sun was in major problems, the ecosystem of the earth would be completely destroyed and human being can’t survive, neither; Finally, the solar system should be considered as a point, because it’s just a small point in the universe.

I. History of gravity and star

There is a force of nature is not subject to any blocking objects, without any distance limitations, and this is the gravity between the substances.

People standing on the Earth have weight, that is the Earth's gravitational force on the people, the size of gravity equal to the weight of people; the Moon around the Earth's rotation, not to escape from the Earth because the Earth due to gravity on the moon; the same, the earth around the sun is the Sun on the Earth there is gravity; operation of the sun around the galaxy center, but also because the Milky Way there is gravity on the sun.

Newtonian gravity is the first observation of Apple fell from the tree, but it is not toward the sky and found. In their daily lives, many natural phenomena and gravitation, and the ocean ebb and flow, the tidal effect is due to

the moon and the sun on the sea due to the gravity. Sun on the Earth's gravitational effect on Earth is not only one side of the face of the sun, away from the sun by the side of the role of solar gravity. Tens of thousands of light years away far apart the two planets also exists between the gravitational force.

In addition there are three types of gravitational force outside nature, that is, the electromagnetic force and the strong nuclear and weak internal force. In four of the most powerful forces of nature is a powerful force, but acting on it within the scope of the atomic nucleus. The second force is a powerful electromagnetic force, it is only one per cent of strength, but the scope of the role of the electromagnetic force is far more than power, it is the role of the electromagnetic force so that the nucleus can not be in touch with each other, so power will not be released. Also, the neutron can not be separated from the release of strong and weak force allows for the neutron proton decay, is essential for the release of strong helper. Well, gravity is the weakest force in nature, as opposed to the electromagnetic force of atoms in a few quadrillion times weaker, the relative strength is also much weaker, but it is not subject to any distance limitations with the object block, everywhere, no do not have, so it will set into a very weak countless powerful, and eventually defeating the other, and the rule of our universe.

The use of the star is a planet of light and heat from nuclear energy, nuclear energy is generated because when the planet is large enough, it is a huge gravitational force so that the core of the site will be able to continuously increase the temperature until the temperature reaches 10 million degrees Celsius. In the meantime, the main elements of the composition of the star will have a severe hydrogen nuclei of the movement, so that their nuclei can eventually break through the electromagnetic force between the exclusion, direct collision occurred, resulting in nuclear fusion will be a strong release.

Nuclear fusion of hydrogen is combined with four hydrogen atoms into a helium atom in the process of nuclear synthesis in the loss of 0.7% to the quality, this is a strong nucleus with the release of the price, and it is that very little loss of quality can have a tremendous energy.

Medium sun as we do big stars, and its fusion with two, one is the fusion of hydrogen, helium fusion time.

Issued in the light and heat of fusion of hydrogen at the same time, it generates a continual deposition of helium in the core of the star, when a large number of hydrogen fusion to helium, the star's hydrogen core has been depleted, leaving behind mainly helium atom, However, outside the core hydrogen burning continues, the two parts of the core role of power simultaneously, is a star's gravity, another is the core of the external hydrogen fusion pressure resulting from the tremendous expansion. When the two forces combined efforts can make the temperature of the core parts of hundreds of millions of degrees, the helium nuclei of the fierce campaign will also be able to break their shackles of electromagnetic force to reach each other directly collided, resulting in fusion of helium to helium nuclei in a strong release.

Helium burning is the fusion of helium to the process of oxygen and carbon, the energy released as a result of its hydrogen fusion energy than larger, at this time within the star lit up like a star again, as the star of this within their gave tremendous power to the external out of top stars, making the diameter of the planet suddenly more than 100 times larger, and the size of the expansion of more than one million times. Although the new planet is huge, but because it's surface temperature is lower than the original star of surface temperature, red is why they are called red giants.

Helium fusion duration shorter than the fusion of hydrogen, helium fusion of the late star to enter an unstable state, it will be the external material was thrown out of some, but mainly composed of carbon and oxygen from the core will collapse into a site of high density, the white dwarf temperature is also high.

White dwarf star is dead, although the high temperature, but this is the original star left over from the heat, it can not happen again internal thermonuclear reaction, and through the slowly cooling of ten billions of years, and the final will be a cold planet. According to human standards, white dwarf material is priceless, because the material was crystalline internal structure, the same structure as diamond, but this great diamond we can hardly be.

Because the hydrogen fusion together to form other stable and durable, so, astronomy will be the star of the hydrogen fusion stage stars known as the star of the main sequence stage.

Stars in the main sequence star will stay with the stellar mass increases rapidly become smaller, the quality of the sun such stars in the main sequence stars stay for 100 million years, but 0.3 times the mass of one solar mass star will burn on trillions of years, and the quality is 5 times the solar mass stars can only burn a few million years. This is because the greater the quality of the star, the greater the gravitational force, will lead to strong gravitational speed up its internal fusion, when the quality of big stars to a certain extent, will be extremely fierce fusion is impossible to stabilize the star and thus lead to the overall stellar explosion, the big stars can not be unlimited. So far, we have observed is the biggest star HD93250 stars, it is about the quality of the 120 times the solar mass.

The quality of the star can not be too small, the smallest star quality is generally not less than 8% of the sun. Because of its gravity is too small planet will not be able to ignite the hydrogen atoms inside, nuclear fusion can not occur, the issue of light and heat can not, so can not be called a star.

To a large extent, the final fate of the star is decided by the quality of the star. 0.7 times smaller than a solar mass star, since gravity is not sufficient, and only the combustion of hydrogen, helium will never be lit. 0.7-8 times the mass of a star the sun, its fate with the sun, like the quality in this interval, the small number of stars burning hydrogen first, followed by burning helium, the stars will burn some carbon, in the completion of these combustion after quietly evolved into white dwarfs.

A 8-10 times greater than the quality of the sun will be the star of his death is extremely violent explosion, as the star of more than 8-10 times the solar mass, the huge gravitational End will star in the combustion of hydrogen, helium and carbon, it will continue to lit other elements, they were oxygen, neon, silicon, iron, each time re-ignited a new element, and its stellar internal energy will produce a larger star, which will be the external layers of the star of a top-out, and finally to make star to reach 10 billion kilometers in diameter. When the ignition process of the final turn, when iron, iron is not only the nuclear burning energy release, but to absorb the energy, a sudden loss of energy within the star of the support, therefore, the outcome of catastrophic happened, up to 10 billion kilometers in diameter star will suddenly collapse to the center to form a very intense explosion, it was thrown out of the material will be hundreds of billions of kilometers away, such as supernova explosions erupted.

Supernova eruption, the star of the core parts of the compression will be fierce, so all the electronic ballast into protons, because of e-with negative charge, positively charged protons, when the electronic ballast into the

proton, the positive and negative charge offset into in son, resulting in an extremely dense neutron star, neutron star's density can reach 100 million tons per cubic centimeter on.

Strong magnetic field neutron star than the Earth's magnetic field 108-1015 times strong, and spin very fast, up to several hundred per second to be able to launch two strong magnetic fields of the electromagnetic (optical). As the neutron star's magnetic axis and rotation axis are inconsistent, when the rotation of electromagnetic waves emitted by it are very much lap to regularly fire in space, this neutron star is a beacon effect. Effect of neutron stars can be a beacon of direction in the universe, the universe we launched multiple aircraft, with alien information is brought to the location of the neutron star system instructions.

The quality of a larger star, when the explosion of his death, the collapse of heavy nuclei would have crushed to form a more dense celestial bodies, the extent of its dense so that light can not escape its gravity, which is a black hole. Black hole exists in the universe has been confirmed.

II. Black holes swallow

If we stand on the earth and throw an object to the sky, at last the object will drop back to the earth. This is because of the gravity of the earth to the object. If there is no gravity on the earth, this object will be thrown out along the direction toward the space and never return. However, even if there is gravity on the earth, when the object is out to the sky in a certain speed, it will get rid of the earth's gravity, keep forward and never returns. Such kind of speed getting rid of the gravity of planet is known as the escape velocity. The escape velocity on the earth is 11.2 kilometers per second, that is to say, if we stand on the surface of the earth and throw an object to the space in a speed of 11.2 kilometers per second, this object will not return to the earth, but fly to the space. The escape velocity on different planet surface is not the same, for example, the sun's surface escape velocity is 617 kilometers per second and that on lunar surface is 2.38 kilometers per second. The reason why the escape velocity on sun surface is much greater than on earth surface is of the sun is much greater than the earth; On the other hand, the escape velocity on moon surface is smaller. It’s because the gravity of the moon is smaller than that on the earth.

The speed of light is the fastest speed in the natural world, 300,000 kilometers per second. When a planet's gravity is extremely large, the surface escape speed of the speed of light when this is the black hole, and it demonstrates that even light can not be great from a way out of gravity. If the radius of the Earth's compressed into a ball of 1 cm is the black hole, so that the size of smaller than the table tennis.

There are a lot of black holes in the universe. Is our solar system likely to fall into the black hole? If the solar system fell into the black hole, it would be undoubtedly the end of human being.

The largest black hole in Milky Way is that in galactic center. First of all, let us analyze the threat of the black hole for us. We know that the sun needs 2.5 billion years to move around the galactic center. The sun has formed for 5 billion years, so it should be running around the galaxy center for 20 rounds and today it seems that there was no indication showing that the operation of the solar system is not normal. The black wall of the galactic center swallowed up only the stars in the scope of galactic center. If the other stars want to be swallowed up by this black hole, at least they should enter the scope of galactic center. The location of the solar system in the Milky Way is more distant from the lateral silver heart, galactic center from a distance of 27,000

light-years, around the galactic center in the process of operation; they do not greatly change their running track, in ten billions of years. The sun can not be run within the scope of Bank of heart. To significantly change the running track of the sun unless the sun be a star with considerable impact, and to experience this kind of impact, to the devastating human disaster is not the time to swallow the black hole, but was hit in the sun moment occurs.

From another angle we can see that the sun could not have been before the death of a black hole swallowed silver heart. There are 150 million years history of the universe, the Milky Way formed roughly 140 million years, galactic center a black hole is about the quality of the 2.6 million solar mass, and the Milky Way there are about 200 billion times the sun's mass, which shows that galactic center with the 14 billion black hole years engulfed the stars, only 8 of the quality of one ten thousandth of the Milky Way, if this rate of phagocytes also offer the entire Milky Way in trillions of years, and the sun on the main sequence stars of the time only 50 million years, so do not have silver hearts are worried about a black hole swallowed.

So, in addition to the heart of a black hole outside the Bank whether or not there will be another black hole swallowed the sun does? Black holes are most likely to occur outside of the heart in addition to silver in the center of globular clusters may also have a big black hole. As a globular cluster, tens of thousands to millions of stars concentrated in a small region, the center of it is very likely there will be a larger black hole, of course, such a black hole with the center of the Milky Way black hole certainly small compared to more than up to the sun but the quality of hundreds or thousands of solar masses. At present, astronomers have discovered through the observation of some globular clusters have X-ray Center, which is the globular cluster center there is evidence of a black hole.

Milky Way has about 500 globular clusters, which are very far away from us, we can see the brightest of the globular cluster Centauri is ω, it is about one million stars, 16,000 light-years away from us. The nearest is the globular cluster M4, about 100,000 stars, from our distance of 7200 light years, it is a very safe distance.

In addition to the black and galactic center of globular cluster black hole, but also there are many big stars by the independent formation of a black hole of death, in the astronomers observing the universe, the same found in such a black hole. However, at this time we have discovered black holes may be strong X-ray sources, they, without exception; we are very far away from. Which was confirmed that Cygnus X-1 is a distance we are close to the black hole, from the solar system about 10,000 light-years, but also need to be further confirmed from the black hole we have recently located in Sagittarius, it V4641SGR and numbered the stars of a general group into a binary star system about 1,600 light years from our solar system. So, whether it is 10,000 light-years or 1,600 light years distance is far enough and could not affect the safety of the solar system.

In fact, a big black hole of a medium-sized star of the solar system compared to the threat of difference is not large, at best, the scope of the black hole a little larger than a mortal threat, but because of the distance between stars is huge in relation to this area of the planet the distance between almost negligible. At the same time, in the universe, black holes can form a big star is very small, about 10,000 stars in the can are likely to form a black hole, which also shows that the probability of a black hole sun hit the solar encounter only the probability of a star impact one ten thousandth.

III. Impact of stars and planets and independent supernova explosion

(1) Impact of stars and independent planets

Today's universe is the world of stars. The stars occupy a large scale in the universe, and are also real and visible. The sun is a star and is what we human being relies on to survive. There are hundreds of millions of stars in Milky Way. Is the sun likely to collide with one of them or be disturbed seriously, so as to destroy the whole ecology of the earth and result in the extinction of the human being?

Firstly, let us analyze the regional environment in which the solar system locates. The sun is outside the Milky Way and the density of the star outside the Milky Way is much less than that in the central region of galactic center and aerosphere. The nearest star to the solar system is Centauri α star, which is a triple star, i.e. the star system composed by 3 stars. In Centauri α star, the Centauri αC star is nearest to us, with a distance of 4.25 light-years, so it's also known as the next star. The stars a little further away from us are Barnard star 5.96 light years away and the Wolf 359 7.8 light-years away from us. Other stars are all from more than 8 light years away and there are only 7 star systems within the distance of 10 light years.

According to our observations, the Centauri α star is closer to us with a little angle. In many yeas, it will reach the minimum distance of 3 light years with us, and then turn away.

How much is the possibility of collision of stars? Such a group of image data could be used for description: If the sun with the diameter of 1.392 million kilometers reduced to the small sand with the diameter of 1 mm, the nearest star would be 29.2 kilometers away from us and the average distance around the star is 52 kilometers, so their chance of collision is very small.

More importantly, these "small sands" distributed sparsely in the huge three-dimensional space are not unregulated and flying all around. Actually they are moving slowly and with orders. For example, for the moving of the sun, if narrowed by the above-mentioned image distance, the "small sand" moves only 4.92 meters each year and all the stars are, without exception, in its own orbit around the galactic center operation, and they respect each other, and to comply with the law. In the universe, the more the quality of large celestial body's stronger laws, the smaller the possibility of external disturbances, a star-class celestial body, in addition to gravity galactic center around it, the general strength of it is not possible to change its orbit. Therefore, like the sun in the celestial light that galaxies outside the stars, the stars of the collision to take place or serious disturbance of each other may be too small, a few will not hundred billon years.

In the universe there are some planet, they are not luminous or fever, do not belong to the stars, but they do not belong to any star system, planets are not common, they only exist because of the formation of the first volume is too small, so that can not be ignited by the gravitational center of the hydrogen atoms, so can only become an independent system running around the center of galaxies, we might as well call them as an independent planet. In that case, they may be related to the occurrence of the sun hit it or each other disturbances?

Because in the universe, the natural formation of smaller objects than large, and therefore, independent of the number of planets than stars in the solar system around the space are likely to have such a planet, but it was not found. However, even so, the number will be few and far between. With above-mentioned figure of speech, its danger of collision or serious disturbances of the sun is like more tiny "sands" moving slowly around the distance of dozens of kilometers.

Moreover, the independent planets and stars, as there is a law of its operation, and they affected by the gravitational center of the Milky Way by rule, around the silver and orderly functioning of the heart, each of which has its own orbit each other with minimal impact, making the distribution of these sparse several "small sand" on the hit probability of more of the smaller.

In fact, even if the merger occurred in the two galaxies, even if the center of the star the most intensive regional meeting each other the opportunity to have a small impact on the small, but its probability of one hundredth of billion. Because of the relative size of the star, the distance between stars is too great.

Must be asked, since the collision of celestial bodies may be so small, why we can observe celestial collision situation?

Collision or mutual interfere of celestial bodies occurs generally in three circumstances: firstly, in the central region of galaxies; Secondly, in the central cluster region; thirdly, among the companion stars. The center of any galaxy with a star are the most material-intensive region, which depends primarily on the state of intensive its innate factors that, in the initial formation of galaxies in the process of gradually forming a center of gravity, the gravitational the center of gravity will inevitably make use of its material to absorb as much as possible, to become the center of galaxies. At the same time, after the galaxy formation, the role of gravity, a little close to the central region of the material and celestial bodies also tends to be concentrated to the center. However, the celestial bodies to focus on the speed of the galaxy’s center are very slow, so for us the periphery of the solar system stars, within a few of hundred billion years, there is no possibility that such a problem.

Clusters are also similar, in the process of galaxy formation, galaxies in the local area a number of small relatively dense material, they formed a very dense cluster of stars, tens of thousands or millions of stars gathered in a small space. And the clusters are bound to have its own center, which is a cluster of stars and matter in more areas, where the star will be the opportunity to impact much greater. Fortunately, the solar system with any one of our clusters is far away from each other, of course, they will not join the crowded ranks.

In the universe there are many binary star systems are triple or stars, that is, two stars or three stars in close proximity, and intertwined. In such a system, as a result of gravitational interaction, any of its companion stars will be a great influence on any star to a large extent also the impact of its companion star, therefore, such a companion star system is often unstable, we obviously do not belong to the solar system such a star system.

(2) Supernova explosion

Supernova is the star the world's known explosion of the most violent explosion of the phenomenon, which allows the brightness of stars in a very short period of time to increase ten millions, or even hundreds of millions of times the speed of stellar material thrown out on up to 10,000 kilometers per second, its strong radiation can strongly influence the region. To talk about the threat of the universe, the threat of the explosion of supernovae to distant planets over the star and an independent impact and disturbance, it is far more than a black hole swallowed, the explosion of supernova should merit our attention is the real threat to the universe.

Two types of supernovae, that is-I and-II supernova supernovae. -I supernova is a dense near the explosion of the outcome of binary evolution, the principle is this: If a binary system of two stars very near by, and the two stars of the quality of medium-large, in which a large number of stars will be pre - as a dense white dwarf

evolution, the other stars are still burning, and the star is a gas planet, it is mobile, therefore, white dwarfs will make use of its companion star heart of gravitational accretion of material, the accretion of material around the white dwarf Shell will form a layer of hydrogen, when hydrogen shell quality after a certain extent, by the white dwarf gravitational effect, the temperature will reach a very high, when the temperature reaches 10 million degrees, the hydrogen nuclei was ignited, and the nuclear fusion of hydrogen occurred. If the white dwarf companion accretion of material to achieve more than enough, in the hydrogen fusion will occur after the completion of fusion of helium, helium-carbon fusion occurred after the completion of fusion. However, the main components of the white dwarf itself is carbon, then carbon fusion ignition will not be at the periphery, but extremely dense white dwarf from the center of the first ignited, and the fusion of carbon will speed pass by the center to the periphery, by the formation of a huge explosion, deep-fried pieces of white material, together with its peripherals will be thrown violently in space.

Type II supernova is a stellar evolution to the late violent explosion occurred, which have been introduced before.

By estimation, in every 25 to 75 years, the Milky Way is likely to supernova explosion, but we have observed little. This is because the solar system locates on the surface of Silver Road and the observations are often blocked by other stars or other interstellar matters.

Threat of supernova explosion for human being is mainly in two aspects. On the one hand, the explosion of the early days of its thermal radiation will increase the Earth's temperature, resulting in the destruction of the Earth's ecological balance. So far, observation of human beings in the Milky Way to the explosion of seven supernovae, they are far away from us, the most recent supernova in 1006, 4200 light years away from us, so there was no form for us in any way. However, the close-up of the supernova is not this the result of the explosion, according to the calculation, if the distance from our recent stars of the location of α Centauri supernova eruption, in about one month over the Earth will be like an additional one-sixth the size of The sun, the earth's average temperature will rise four or five degrees.

On the other hand are the γ-ray radiation and other harmful radiation. It’s more serious than thermal radiation, because the extremely strong γ-ray and other harmful rays of radiation exploded by supernova can be life-threatening in large scale. Then, according to the present the most authoritative studies have shown that only 25 light years away from Earth with the explosion of the supernova in order to achieve full weaken the ozone layer, so that ultraviolet light reach the surface of the double dose, which seriously affect the survival of human being .

To sum up, we must beware of supernovae in the range of 25 light-years. In fact the basis of astronomical observations, which is within the scope of the explosion, did not produce the conditions of supernova stars. Because supernovae produce the conditions for the explosion it is clear that supernovae of type I must be a close proximity of the middle-big stars, for Type II supernovae must be the quality of more than 8 times the solar mass stars. This is the star at close range can easily be found, but we did not do near the star.

However, the solar system today, the location of the galaxy in which although not in a nearby supernova may occur, but the sun is not static, it is in the speed of 220 kilometers per second around the galactic center operation, but also in the vicinity of the sun orbits the star is also in accordance with a certain operation of law, perhaps after too long we will catch up with one in 25 light years, the explosion of the supernova. However, according to scientists, the 100 light-years away from the scope of our average will be 7.5 billion years the

explosion of a supernova, this is estimated that 25 light years away from us within the scope of every 480 million years before the explosion of a possible supernova. Since the formation of our sun has only 50 million years, and 50 million years and then turned into a red giant, mankind can not survive in this, therefore, that such an incident may threaten our very small.

In fact, if we really catch up with such a thing has nothing to fear, because, before the explosion of supernova obvious signs, such signs can at least provide us with more than 100 million years of preparation. Then, in the vicinity of the observed supernova may break out, we are fully capable of taking a series of effective preventive measures. Extreme, in order to offset the destruction of the ozone layer, we can come up with the production of a large number of the sky to measure ozone emissions, or to prevent the destruction of the ozone layer of the measures; in order to prevent the strong ultraviolet radiation, we can develop a skin protection against ultraviolet radiation materials, radiation-proof clothing; the strongest γ-ray in the first of more than 20 days, we may even stay in the air-raid shelter construction or radiation does not come out, a few need to work outdoors can be put on spacesuits radiation. If the explosion of supernovae closer, we need to prevent the resulting thermal radiation of the harassment, as the glaciers melt, sea levels will rise, so we had to move out of part of the residents of coastal areas; as a result of floods, hurricanes frequent, as well as the possibility of some epidemics, but also make the necessary precautions should be. In short, we should encounter such a situation is very troublesome, but to human being as a whole can not constitute a threat to survival.

IV. Threat of micro black holes and antimatter planet

Understanding of the universe today is based on quantum mechanics and general relativity based on quantum mechanics and the theory of relativity is only the establishment of a century, therefore, we far from understands the universe reflects the nature of the universe. According to existing theories of the universe, the analysis has not been confirmed that there are two objects, if they really existed, and of the solar system and the possibility of a threat to mankind would be devastating, which is micro-black holes and antimatter planet.

(1) Threat of micro black holes

According to Big Bang cosmology, the Big Bang at the beginning of the universe, may be tremendous pressure in different regions of the material compressed into a small mass of the black hole, the black hole of only tens of thousands of kilograms of small, there may be a big star so much smaller, It is said that such a black hole for the micro-black hole or black hole primary.

If such a micro-black hole, after the history of the universe 150 million years, these micro-black holes like the situation?

In accordance with the laws of nature, in the absence of rules in the form of objects, quality and size of the smaller number of more objects, on the contrary, the quality and volume of the object the greater the volume the less. Big Bang when the universe formed by micro-black holes should also is the case. Most of the quality of very small micro-black holes, like the Earth or the moon of a larger quality of only a small number of micro-black hole. Well, this micro-black hole would be for us what kind of threat? To answer this question we must first understand the characteristics of the black hole.

Although the black hole even light is off, but very stingy with the black hole is not entirely, black holes have evaporated, and the quality of the smaller black hole the faster the evaporation, the greater the evaporation of black holes more slowly. The quality of a Milky Way black hole evaporation period of 10,100 years (that is, 1 after the 100 0), a solar mass black hole evaporation period in 1065, therefore, such a big black hole evaporation is a very long time, perhaps the universe than the existence of time to long. However, the quality of one billion tons of the black hole evaporation is only 100 million years; a mass of one million tons of black hole evaporation is only 10 years, a mass of 1 ton of black hole evaporation over 10-10 seconds, the evaporation period of less than to the moment.

Taking into account the existence of black holes in the process of how many have swallowed some of the material, therefore, it is generally to the quality of one billion tons for the sector that the quality is lower than the micro-black hole evaporation should have been obliterated, and the quality of higher Micro black holes should exist in the universe, the quality is roughly equivalent to a larger mountain.

Big Bang formed the vast majority of micro-black hole is very small and more than 10 billion tons of the black hole should be very few, therefore, the majority of micro-black hole 150 million years of time have all been basically the evaporative light. And the largest micro-black hole that the reverse is the case, which was slowly evaporated, and they continue to exhaust all their material around, it will make the longer the big black hole, but also the more difficult the bigger the black hole evaporation Therefore, such a black hole if we can arrive at today, the quality of many of its more than 150 million years ago should be even more significant.

The distribution of micro-black whole density and distribution of the universe, the density of the material should be roughly the same, especially as the oldest of the celestial bodies, if still exist today, it should be most concentrated in the central region of galaxies. At the same time, to determine if micro-black hole is correct, the Milky Way is also bound to be such a micro-black hole, but should also focus on the most central region of the Milky Way. Galactic center for focus on the micro-black hole near the far distance from the sun, the sun will not jeopardize the security, but also a part of micro-black holes will be located in other regions of the Milky Way, then, these micro-black holes will not be a danger to our solar system's security?

Let us take the mass of the moon the size of a micro-black hole sun as the impact that micro-black hole should be as large as the quality of the moon is big enough, but the quality of the black hole of the Moon is only 0.1 mm of its size, as a barely recognizable fine sand.

If such a big lunar impact of celestial bodies first the sun will be earth-shattering impact of the spectacular scenes, and then the moon will be swallowed up by the sun. However, the Moon has a quality of a micro-black hole "fine sand" when the sun met the situation is entirely different, so when a small "sand" has a great quality, just a little with a certain speed, its kinetic energy are very great, but "fine sand" in a very small cross-section, into the sun after the resistance will be very small, therefore, it will easily penetrate from the sun and the reverse side and out, to continue into space. Micro black holes will not be evaporation, but the quality of absorbing the sun after some energy radiation, their weight will increase, due to the quality of micro-black whole absorption is limited, then the sun did not seem to like what happens, continue to their combustion.

However, when this "fine sand" when the speed is very slow, in the penetration will be the sun after the sun's gravity and resistance remain in the solar interior, if there is such a situation, the micro-black hole sun will continue to be material themselves, the quality of micro-black holes continue to increase, decreasing the quality of the sun. At first, it seems that the sun looks nothing happened, after millions of years of continuous suction

on macrophages, and finally one day, the sun's nuclear fusion within the complete destruction of the system, the entire Sun Microsystems will suddenly collapse into a black hole, micro black holes will be changed has become a black hole about the quality of the sun, Earth and other planets of the sun is still around that has the quality of the functioning of small celestial bodies, and the sun is shining no longer exists, the Earth's surface temperature dropped rapidly, and finally become a no life the world can not survive in the cold.

Of course, micro black holes may also be a direct hit on Earth, if there is such a phenomenon and the micro-black holes directly into the sun of their situation is similar, that is, either to wear over the Earth, or Earth macrophage depleted suction, and finally collapse into a black hole the earth.

With regard to the threat of micro black holes have to be considered in both cases, micro-black holes do exist based on the assumption, and the other is to analyze the authenticity of the existence of micro-black hole.

If we assume that micro black holes do exist, after 150 million years after the evaporation, a small number of survivors of the large number of micro-black hole and we will not encounter a higher than hundred billion years. Even if met, there will be three kinds of results, the first results of the sun while wearing a micro-black hole that will not pose much harm to the sun; the second result, into the solar interior, solar absorption material macrophages to collapse and destruction. These two results have been described before.

The third result is micro-black holes are captured by the sun's gravity, the solar system to become a member of the family. Micro-black holes as celestial bodies smaller than the sun, when its scope into the sun's gravity, but also has some speed, do not hit as long as the sun, captured by the sun as a celestial body by its own rule is very natural.

In the above-mentioned three kinds of potential, the third largest possible probability, because the sun crashed into the need for very accurate, and should be captured by the sun's gravitational force as long as access to sufficient scope; first the probability of a possible second, because a celestial body in relation to the relative speed of the other celestial bodies are usually very high, especially in the powerful role of gravity, would put this higher speed; The second possibility is the lowest probability, as a celestial body slowly crashed into the possibility of another celestial body is far too small. In the above-mentioned three possible in fact only the second smallest possible probability of the sun can really pose a threat, which makes the threat of micro black holes become more insignificant.

Here we will look at the authenticity of the existence of micro-black hole, in accordance with the famous scientist Stephen Hawking's theory, the existence of extensive micro-black hole all galaxies in the universe and each space, if this is really the case, it will have a micro-black hole absorption macrophages stars because the universe has a number of billions of stars, since the prevalence of micro-black hole, it is impossible to not encounter micro-black hole and stellar absorption by macrophages, then If so, then there will certainly be the star and release a sudden collapse of a large number of X ray events, if we are surrounded by micro-black hole, it should also have their objects swallowed and X-ray of the situation out. However, the observation of the vast universe, we still did not find evidence of micro-black hole.

(2) Threat of antimatter planet

Antimatter is based on Big Bang cosmology deduced from the. We know that the composition of the material is the basic unit of atoms, atomic nuclei from the center and the outer electron of the atomic nucleus composed of

protons and neutrons while, electronic with negative charge, positively charged protons, neutrons with no charge. The water we drink is made up of two hydrogen atoms and one oxygen atom, composed of water molecules, the salt we eat is from a sodium atom and a chlorine atom molecule composed of sodium chloride. What we have seen and felt by all substances are composed of countless electronics, protons, neutrons, as well as by their composition of atoms and molecules exist in this universe.

However, according to the principle of the Big Bang cosmology, the formation of the universe in the Big Bang, while the material world, should also be formed almost the same amount of antimatter. So-called anti-material, that is, with the negative charge of the electronic band corresponding to the positively charged anti-electron, and the positively charged protons with the corresponding negative charge of the anti-protons, neutrons and anti-neutron although not with the same charge, but otherwise, the opposite is true. Anti-e, anti-protons and anti-neutrons can combine to form an anti-nuclear, anti-atoms and the formation of a combination of different anti-molecule, to form the anti-material world.

Earlier scientists from the laboratory to obtain an anti-electron, anti-protons and anti-neutrons, which will happen with the material and annihilate each other, releasing energy and γ-ray. If the sun and the sun the size of a planet antimatter meet, will be turned into a huge fireball and a very strong γ-ray, and then will disappear, the disappearance of the sun will exist in the form of energy in the universe. Therefore, if the sun hit a large anti-material objects, will be the extinction of the human disaster.

So, if Big Bang cosmology, in accordance with the judge, the existence of the universe, and material of antimatter roughly equal, the universe is full of antimatter bound, so that will inevitably occur and material antimatter planet annihilate each other and produce events, but the reality is that how are we doing?

Over the years, in the search for anti-material, scientists have done a lot of work, which concluded that in light of 30 million are certainly not anti-material objects. That is, where in our Milky Way galaxy and the group will definitely not anti-material objects.

Principles of scientists is not difficult to understand in order to determine whether the sun is antimatter as an example, the solar wind blowing all the time in our planet, the solar wind is the main component of the proton, if the sun is the anti-material, it will produce an anti-proton protons, the earth must always face the anti-proton annihilation. In fact, this situation does not exist, so the sun can be confirmed by the composition of the material rather than antimatter.

The same method can be used for the Milky Way and the galaxy cluster observations. In our Milky Way and nearby galaxies, the cosmic rays are everywhere as the particles in flight, and they do not occur with any celestial annihilation, it is proved in our local group of galaxies and the Milky Way there are no major celestial bodies of the existence of antimatter.

However, for more distant galaxies we do not have sufficient basis for the. Because we only receive the astronomical observations of distant celestial light, material and photon radiation, anti-radiation reflective material will be sub, but the photon is neutral, photons with sub-reflector are identical particles, we can see that for more distant objects, we can not afford today to determine the exact composition by material or by the composition of antimatter. Of course, neutrino astrophysics is also radiation, neutrino radiation from the material and radioactive substances by the anti-anti-neutrino is definitely not the same, but neutrinos interact

with any substances are very weak, as issued by the sun neutrinos can penetrate the earth unimpeded, and what almost no wear and tear, therefore, to design a device capable of receiving them is very difficult.

Then, on the threat of antimatter, the distance Leaving aside whether it is really a large number of anti-material objects exist, only 30 million light-years of anti-material objects are not the definite conclusion, we can sit back and relax to live in the solar system, 30 million light-years in addition to material objects even if there are anti-collision system, at least after a few of ten billions of years to reach, and after a few of ten billions years, sun does not exist already.

IV. End of universe

The end of the universe is no doubt that the end of human being, in fact, far from being in the universe before the end of the universe should have doing not have the conditions for human survival. In that case, the universe will end how and when coming to an end?

Our rapid expansion of the universe is a universe, the expansion of its power comes from 150 million years ago the Big Bang, but the universe, there is a ubiquitous force in restrict such expansion, that is, between material and gravity, the size of gravity depends on the quality of the material universe, as well as the distance between the material.

Is the expansion of the universe, the ultimate force of gravity to overcome substance or substances in the final gravitational force to overcome the expansion of the universe, which is to decide the ultimate fate of the universe, the fundamental factors? If the strength of the expansion of the universe to overcome the gravitational material universe, the universe will continue to expand, opening up the universe called. Conversely, if the material universe, the gravitational force to overcome the expansion of the universe, in a number of billion years after the expansion of the universe will reach the maximum, and then the effects of gravity starts to contract, and the last to return to the starting point of the universe, said the outcome of such a universe for the closure of the universe. Cosmology the Big Bang created the universe model, the universe, the ultimate outcome may be only two, then the universe will take a in the end how the end of ourselves?

If we can know exactly what the universe's average density of the material to determine the outcome of the future of the universe is not a difficult job for him, but apart from the universe does not know the depth of our material can be seen, there are a large number of us do not understand dark matter, which makes the universe we can not clearly determine the future. Allow us to elaborate here only two types of assumptions.

The first is, if our universe is an open universe, the galaxies around us will continue to run away from us, a number of trillion years, we can see only the universe of the galaxies in our group of more than 30 of these galaxies, while the other galaxies are out of our sight, that is, observing the use of any equipment not be able to see, then, we have observed the universe as if the universe only one tenth billion today.

In other galaxy clusters (groups) will be the same, because clusters of galaxies (group) as independent objects in the universe system, its internal galaxies are linked, and are outside the galaxy would be far away from away, until no longer be able to see.

The galaxy clusters (groups) are not static within each galaxy will continue to merge, so that the increasing scale of galaxies to form the number of super-galaxies. Have to rely on nuclear fusion as a result of the star to the issue of light and heat, the hydrogen in the universe after the depletion of elements in the universe only brown dwarfs, neutron stars and black holes, which are the stars of the wreckage after the death of the universe it is this the end of the stellar period, enter degenerate period. During this period will be after a few of trillion years.

Degenerate during the period much longer than the star, at least until after the end of 1037. This period is the star of the wreckage after the death of the collision, the black hole in such a collision would be swallowed up all the remnants of the celestial bodies, and another black hole collision, the collision in the black hole is a small black hole into a black hole, which the quality of the black hole become larger and larger. Thus, in the post-1037 period of the universe will enter a black hole.

The black hole period is much longer than acquiring period. The greater the quality of the black hole, the lower surface temperature, the slower the rate of evaporation, the black hole will last a long period of time can not be calculated, only a concept can be used as a reference, that is, a solar mass black hole evaporation period in 1065, and a the quality of the Milky Way's black hole evaporation period of 10100 years. When all of the black hole evaporation after all, the universe will enter its final period, that is, the dark period, when only the energy of the universe rather than any celestial body.

Second, if our universe is a closed universe, the universe will reach in a number of trillion years its maximum, and then to stop the expansion, in turn begun to shrink. At this point, standing far away to observe the Milky Way galaxy, all galaxies will no longer be away from our left, but closer to us. When the arrival of this day depends on the density of the material universe may be, at least it appears from today to stop the universe there is no sign of expansion. Observation of human vision of the universe while not exhaustive, but we can observe galaxies away from our borders speed of more than 90% of the speed of light, which would indicate that many millions of years of expansion of the universe will not stop.

It is basically to determine the universe of the contraction process and the expansion of the universe is basically symmetrical course, how long it will be the expansion of time how long the contraction time.

When the contraction of the universe from its destination when there are 150 million years, the background cosmic radiation temperature of the universe more or less the same as today is around 3K; When 10 million years from the end of contraction, the background temperature of up to 30K, galaxy clusters began to merge; When the end of 1 million years from the time of the background cosmic radiation temperature to rise to 300K, that is to say, the general temperature of the universe than it is today Earth's temperature is higher, life has been difficult to survive in the universe; then, with the universe continuous contraction, as well as the background of rising temperatures, the universe, the sky will be dark today's bright colors slowly change, and then turned into a fiery red; when the end of 30 years from when the universe temperature up to 3000K, atoms were cracking, material to nuclear, electronics, photon and neutrino form; then the sky will no longer be transparent; when away from the end of 1 hour when the temperature of the universe to reach 100 million K, the main component of the universe as photons and neutrinos; from the end of 3 minutes when the temperature of the universe one billion K, the universe is full of electronics, neutrinos and their anti-particles, and a small number of protons and neutrons; when the seconds from the end of 10-4, the temperature of the universe as much as one trillion K, the universe of only neutrons, protons and their anti-particles; when 10-35 seconds from the end of the universe's temperature up to 1027K, the four forces of nature attributed to reunification; when 10-43 seconds

from the end of the universe's temperature up to 1032 K, rapid contraction of the universe, and then reach the end.

The threat of the end of the universe to the overall survival of the human is so distant from us that it has no direct relevance for us to talking about these issues. But as one of the factors explaining survival of mankind, it is necessary to thoroughly explain the problem.

Section II: Threat on Solar System

In the vast universe, the solar system only a very small corner of living, but it is home to our common human being, the planet we live on the sun is a star system in this one small planet.

Stand in the sun over the Arctic, we can see all of the solar system eight planets are in the same direction along the same anti-clockwise rotation around the sun, their orbits almost in the same plane, the plane known as the ecliptic plane, which is elliptical orbit In fact, almost circular.

8 composition of planets vary considerably, but it can be divided into two categories known as terrestrial planets, they are Mercury, Venus, Earth and Mars, by rock, metal composition of the solid planet, their density high, slow rotation, the satellite less the same as the Earth; the other known as the Jovian planets, and Jupiter, Saturn, Uranus, Neptune, their size, quality, weight, but the density is very low, like Jupiter, the main by liquid substances such as hydrogen and helium composition, as "water polo" wandering in space, they spin faster, multi-satellite, as well as Central.

Earth as the solar system's third planet from the sun 150 million kilometers, the outermost of Neptune from the sun is 4.5 billion kilometers, but this is far from the boundaries of the solar system, in addition to dwarf planet Neptune (such as Pluto) and many small celestial bodies, as well as interstellar matter.

The planets in the solar system is also very important satellite of celestial bodies, is already confirmed a total of 139 satellites, and there are many satellites need to be further identified. Although our planet in the solar system is a smaller planet, but Earth's moon is a satellite of the larger satellites, each satellite in the solar system was ranked No. 5.

In the solar system there are a large number of small objects such as dwarf planets, asteroids, comets and meteoroids, as they are too many specific statistics as well as impossible. In addition, interplanetary dust and interstellar rays, they are part of the composition of the solar system.

I. Threat of the sun

(1) Sun into a red giant

The quality of the sun for 2 × 1030 kg, a diameter of 1.39 million kilometers, which is composed of 71% hydrogen, 27% for helium, and 2% for carbon, oxygen, silicon, iron and other elements. First and foremost the

protection of human existence are the sun, its brilliant shine and warm us, to leave the sun's shining on Earth would be a dead, cold planet, major changes in the sun, the earth and mankind will be drowned.

Issued by the sun light and heat is to rely on nuclear energy, which the energy generated per second is equivalent to 12 billion tons of coal combustion, the Earth its only less than 22 billionths of a brilliant, but sufficient to maintain the earth's ecology, so that the earth has become a beautiful and pleasant planet.

On the sun's energy has always been a concern of scientists, it is a time of combustion in the human experience, has never been divorced from the concept of chemical combustion, regardless of the burning of coal, oil, or trees, are based on atomic displacement can be caused by chemical , according to people that the highest value of burning fuel, the sun kept burning this continues, the burning period of several thousand years, however, is not the most optimistic estimate several hundred thousand years. On this basis, a lot of people come to wrong conclusions, such as: that the Earth's history, as well as human and biological history significantly less than the actual length of time. Further concluded that for the future of human being is extremely pessimistic, because the fate of the sun determines the fate of the planet and human being , if the sun out in the thousands of years, mankind will not be able to survive no doubt, this is also said that after thousands of years human beings will be extinct.

However, research on the Earth's crust, as well as paleontological studies suggest that the Earth's age and history of life on Earth is far longer than people imagine, and then also understand that, through astronomical observations, the actual history of the stars of the past than the understand the difference between the thousands of miles, therefore, the energy of the sun have had doubts.

As early as age 60 in the 19th century, scientists have been based on optical analysis of the major components of the sun that for hydrogen, the late 19th century the discovery of radioactive elements, scientists recognized that the existence of a natural world that we do not know the past has the energy, which is nuclear energy. Understanding of nuclear energy after the constant breakthroughs, especially Einstein's famous mass-energy formula proposed theoretically established the existence of nuclear energy, as well as the relationship between energy and quality. Further observation and studies have shown that the sun there are more than 10 million degrees Celsius, which show that the core of the sun, high temperature, the nucleus of intense exercise can be to break through the electromagnetic force between the nuclei of the exclusion. Thus, the scientists finally come to the conclusion; I believe that the ongoing thermonuclear reaction inside the sun, the sun's light and heat is provided by nuclear energy. Moreover, the other stars of the energy come from nuclear energy.

Today, our understanding of the sun has reached a very high degree of elaboration that the following have sufficient grasp:

Our sun as a star was born in about 50 million years ago, the predecessor of the sun's heat is a huge corporation, basically can be identified, the hot group is the second generation of the universe or the third generation of great stars of the ruins after the explosion. Through the hundreds of millions of years of evolution, the final heat, through their own quality of its own gravity to form the center of intensive regional, and then formed a primitive planet, the planet through their powerful gravitational absorption material around, and finally set fire to the core parts of the hydrogen atom, and this is the sun as a star was born.

Elements of the solar hydrogen burning roughly 100 million years time, at present, it has been burning for 50 million years, and then also is able to burn 50 million years, and this is a period of moderate stability in the sun.

However, after 50 million years, the helium atoms inside the sun will be lit, the sun will be turned into a huge red giant. He will continue to burn 10 million years, when all the helium burning, the sun will become a white dwarf quietly, although it is heat, but has no internal nuclear burning, and then slowly over time will be the natural cooling.

The sun turned into a red giant, as the new diameter of the sun than the sun's diameter will be more than 100 times larger, it will quickly Mercury, Venus swallowed, and eventually swallow the Earth, we gave birth to the life of this planet -- Earth will cease to exist, the homeland of mankind in the universe disappear.

Hundreds of millions of years of standing on a long-term point of view of the external forces for the threats to the survival of mankind, then, after 50 million years, the sun turned into a red giant is a definite threat. In fact, before the time of the last million years the sun has not so stable, and in this transition period, the Earth will continue to suffer harassment sun.

And when the sun turned into a red giant, when its flame will remain around the proliferation of not only the earth will be swallowed up, it will not be able to live on Mars, the world needs to continue to consider the relocation field. At that time, Jupiter or Saturn, satellites of a satellite or a few may be transformed into a place for human habitation, but the external environment has become very poor.

Then, when the sun is into a white dwarf, the last human in the solar system will not continue to survive. Although the hot white dwarf in the cooling process can also be light and heat radiation from outside, but its radiation energy is extremely limited, and perhaps the location of this Mercury can enjoy just such a brilliant, but the Mercury into a red giant in the sun has been swallowed up when therefore, it is human must be time to move out of the solar system, unless human being can be moved around a white dwarf planet or living in the man-made objects. Moreover, the white dwarf can not rely on a planet a long time; it will cool slowly, until the total loss of light and heat.

In fact, the human from the beginning of the transition period may be simply that they can no longer survive in the solar system, because that's when the sun is already very unstable, radical changes in the total, the human race can not be fully and accurately grasp its laws, which as long as there is a strong changes, will be able to complete the destruction of mankind.

(2) Impact of solar activity

Then, in the sun into a red giant before the billions of years in the future, we can absolutely rely on it? One day it wills suddenly some problems, greatly against human being again? We really understand the sun and have no problem with that base?

The Sun is a gas planet; it is divided into the core from the inside out, the radiation layer, the troposphere and the solar atmosphere. Solar atmosphere can be divided into photosphere, chromospheres and corona, which is not separate from the three-tier, but their penetration. Sun part of the troposphere and below the adoption of an astronomical telescope can not directly see only by the nature of their data and to determine the theoretical calculation.

Sun on the Earth have a direct impact on the factors that are mainly the activities of the sun's surface, the surface activities, including sunspots, flares, prominence, and the solar wind.

People do not use instruments can also be observed on the sun often black ball point, these spots is that sunspots. Sunspots are often inseparable pairs, and from west to east with the sun's rotation direction and rotation around the sun, to disappear from the formation of at least a few days, as many as dozens of years. Sunspot center temperature is about 4500K, the surface than the light ball about 1200K, so show contrast black. Sunspots generally oval-shaped, black son of a few kilometers in diameter, large sunspots up to tens of thousands of kilometers in diameter, and sometimes appear in groups of sunspots, and even as a few up to 100,000 kilometers. Is generally believed that the emergence of sunspots is the result of the solar magnetic field? Sunspot activity has obvious cyclical, sometimes frequent, sometimes a rare occurrence, with an average period of 11 years.

Flare in the chromospheres appears bright local region; it is in a very short amount of time focused on the explosion of solar energy. Flares broke out, in a very short period of time out a large number of charged particles and solar wind can be accelerated at times.

Prominence is the explosion of chromospheres layer of a strong stream of hydrogen, this hydrogen flow into the combustion flame red, the number of 100,000 kilometers straight. Is generally believed that the solar magnetic field prominence is the result of a sudden change, or because changing the hydrogen flow generated.

Flares and prominence of the activities are related to sunspot activity is closely linked to sunspot activity has been that solar activity is the main indicator of the strength.

The earth's ecology and the sun's activity is closely related to, when the flare erupted, the strong solar wind on the Earth's magnetic field have a strong interference, known as magnetic storms. Earth's short-wave communications, through fifty or sixty kilometers above the surface of the ionosphere reflection of the dissemination of information, the occurrence of geomagnetic storms, the ionosphere sharp increase in degree of dissociation, resulting in the ionosphere reflection of electromagnetic waves can not be normal, and will absorb electromagnetic waves, resulting in The attenuation of the signal, making short-wave communications.

Geomagnetic storms affect the Earth's upper atmosphere but also the chemical structure and dynamics, and long-term harassment of the storm will affect a large extent, the Earth's climate, causing floods or drought. Based on the analysis of global climate, climate change cycle is about 22 years, which the sun's magnetic cycle is the same.

Solar activity and Earth's earthquake was also associated, through the cycle of seismic activity around the world for many years to analyze the earthquake cycle for 11 years, with the sunspot activity cycle, exactly the same. With regard to the impact of solar activity on the causes of earthquakes, some scientists believe that when the peak year of solar activity, solar wind energy on Earth than the impact of higher than normal, making the earth's rock layers have a discharge pressure, and under the alternating electromagnetic field stretching vibration generated, making the already pent-up stress of the rock layer in the case of resonance when the fracture and dislocation, which triggered the earthquake.

In the study of old trees that ring the solar activity years wide, that fast-growing trees, on the contrary, low solar activity years narrow rings on the slow growth of trees, which confirmed the solar activity effects of life on earth. Based on historical statistics, the growth of crops is also in line with the law.

The sun's activities and human health is closely related to, for example, solar activity increased UV-strong, and strongly disturbed the Earth's magnetic field, so easy to influence cardiovascular function. Solar maximum bacterial growth was faster, so influenza, diphtheria epidemics of diseases such as high incidence. According to Russian scientists study the history of cholera pandemics have occurred in basically peak in solar activity.

However, while the sun's activity can be completely sure about the earth's ecosystem can be, the sun can not only nurtured life on Earth, can also harm life on Earth, but above all the factors that can endanger the survival of mankind.

This conclusion is not the sun decade, observed for centuries, nor is it for thousands of years, years' experience, but 50 million years of history has proved. In the past 50 million years in the sun with its warmth and good to the Earth's environment from a transformation of the planet has become a beautiful and pleasant planet, it makes the Earth from the doldrums of reviving them, finally the 38 million years ago has nurtured the first life, it is the most simple organisms. This started life in the glorious sun evolving, never stopped until 5.3 billion years ago large and complex life in the ocean there, and then the lives of 4 million years ago to the land, 600 million years ago apes into the human threshold, and nearly 5 million years ago to complete their own human evolution.

50 million years have lived up to the sun from us, from this point we can have every reason to believe that the next 50 million years old remain in the main sequence stars the sun, we also will not live up to. This conclusion, of the universe, astronomers from other similar observational stars the sun, as well as analysis of existing scientific theories can be confirmed.

II. Celestial collision

July 1994, amateur astronomers around the world through telescopes, witnessed the collision of comet astronomical wonders of wood. Shoemaker - Levy 9 comets on Jupiter over the enormous gravity of Jupiter have been torn into 21 pieces, these fragments to the speed of 60 kilometers per second crashed into Jupiter produce an explosion, a huge fireball and flash, and Jupiter the atmosphere to form a series of spots. So every time the impact is equivalent to 100,000 of the power of nuclear bomb, if there is on Earth, the Earth as a whole will suffer a great ecological damage, human survival will be seriously threatened.

However, the impact relative to the Earth has been subjected to the impact is certainly not the largest. Before 6500, have been rampant in the earth's giant dinosaurs, which many people believe that extinction is the result of an asteroid colliding with Earth, and believe that a diameter of about 15 km asteroid impact in Mexico's Yucatan peninsula. At present, scientists are on the Yucatan Peninsula in the sedimentary rocks buried under an estimated diameter of 180 kilometers, 900 meters depth study of the impact crater. So, the survival of mankind in those days also should be subjected to a major catastrophe. In fact, a sufficiently large extraterrestrial objects colliding with Earth can be the extinction of mankind, therefore, to study the survival of human being as a whole, it is necessary to study the impact of the issue of foreign objects.

The solar systems that may exist within the scope of the impact of celestial bodies are asteroids, comets, meteorites and meteoroids. As a result of meteorites and meteor is too small, not to human being as a whole constitute a threat to survival, therefore, here we only discuss the impact of asteroids and comets problem.

(1) Asteroid impact

Asteroids are the same as our planet around the sun, but its size is very small. A lot of the solar system asteroids, which are mainly concentrated in two regions, one near the orbit of Pluto Kuiper Belt, and the other are between Mars and Jupiter in the asteroid belt. Because we are very far away from the Kuiper, where the asteroid can not threaten our security, the threat of asteroid scientists generally do not consider the Kuiper Belt of asteroids.

Roughly estimated that the total number of asteroids in the solar system more than 500,000 (other than the Kuiper Belt of asteroids and lateral), and they are mostly very small size, although the large number, but the total does not add up to five ten thousandths of the Earth's mass. The vast majority of these planets are in the asteroid belt, a region in the 2.17-3.64 astronomical units (an astronomical unit is the distance between the sun and the earth, the day the text of units of about 150 million kilometers). Therefore, the asteroid belt asteroids are very distant from us; the general could not pose a threat to us. However, the asteroid as a result of small size, light weight, the planet vulnerable to disturbance, resulting in the possibility of changes in the larger orbit, which requires us to distance to the asteroid belt to give a considerable degree of concern.

Why did the solar system's asteroid on mainly in between Mars and Jupiter, and many scientists believe that this is because of Jupiter's gravitational force of the original asteroids in the inner circle to attract the past, because Jupiter is the solar system's largest planet, as opposed to inner circle planet, its gravity is much greater.

A small number of asteroids are very special, and they stay away from the asteroid belt, near the Earth orbit to go inside, then went to the far outside Saturn's orbit, especially close to some of the asteroid away from Earth, known as the Near-Earth small planet. We really care about is that these near-Earth asteroids, they are more than the asteroid belt asteroid threat to our much larger.

Although written in the year, human being has not had a record of asteroid impact, but in the face of so many around us asteroids, as well as reference to our experience of the universe, the observation of celestial bodies, or that the asteroid is a very real threat, it compared Day said before the threat of the universe, as well as the sun into a red giant, it seems, in sight of the threat. But really a large enough asteroid colliding with Earth is entirely possible for the extinction of human being , even if a large asteroid colliding with Earth also has the potential to cause great harm human beings, so, several major countries have considerable used for observation and research into the asteroid. For example, NASA asked the U.S. Congress on the need for all the diameter of the asteroid more than one kilometer recorded and classified.

At present, we have found and a number of near-Earth asteroids close to 3000, of which more than one kilometer in diameter to about 1100, and the largest is the well-known stars of Venus.

Venus stars in their orbits between Earth and Mars, 22 kilometers in diameter. Like this is really an asteroid colliding with Earth, it will greatly affect the global ecosystem, many species would have been extinct, human life will not only suffer great destruction, and the results of human civilization would have been great damage. Fortunately, this asteroid we have full understanding of the special launch from NASA's exploration of Eros stars no probe NEAR-Shoemaker on February 14, 2000 entered orbit around Venus Star in the successful detection of one year after close and in February 12, 2001 Eros landing smoothly stars, their research has been very successful.

However, not the entire near-Earth asteroid Eros as the stars we all know it, especially those the size of small asteroids is their situation; we do not fully grasp it. For example: March 18, 2004, small objects from the Earth 2004FH over 43,000 kilometers (more than the Earth-Moon distance of nearly 10-fold) over, astronomers over the first 3 days and found it, this 30 meters in diameter if the objects just hit a medium-sized cities, the city will be destroyed. Of course, this is still far from adequate for the destruction of human extinction.

Some from very close to the Earth if an asteroid hit the Earth it is possible to bring greater harm. According to observation and analysis, the asteroid (29075) 1950DA will be in 2880 from the Earth's surface over a very low place, if its orbit changes slightly small it may be crashed into the Earth, this 1.4-kilometer diameter asteroid would hit the earth, to bring disaster on Earth can affect the global ecology, and tens of thousands of square kilometers of the scope of a large number of organisms (including humans) will most be destroyed. Fortunately, there are 800 years, we have sufficient time to track this asteroid re-evaluation, but also have enough time to deal with its impact.

(2) Comet impact

Comet from the rocks, frozen water and carbon dioxide, dust and a variety of impurities, is a quality of smaller celestial bodies. Comet material will be fully compressed together, the comet but also dozens of kilometers in diameter.

Referred to as the core of the comet nucleus, the external cladding cloudlike fat known as coma, when the comet close to the sun, the strong solar wind and the sun's radiation pressure will push the growth of hair coma tail length, tail length is shorter Tens of thousands of kilometers, while the 100 million kilometers long. Tail is very thin material, the surface density of only a few of one billionth billon of atmosphere.

Comets is difficult to grasp the running track is not only an oval-shaped track, as well as parabolic and the hyperbolic orbit. Moreover, the comet's orbit is highly susceptible to via the planets and the impact of distant stars, so some of the comet's orbit changes continuously, and some comets gone forever, there are some new nameless came to the solar system comets.

Many of the comets in the solar system, but scientists only observed more than 1600 stars, and only a small portion of the comet's trajectory has been to master. The gap between the operating cycles of the comet is also very large, short, or only a few years more than 100 days, up to several thousand years' long or even years.

The comet itself is unstable, and each time when passing the sun, the solar wind would disperse the material will be part of it into space, thus, the quality of the comet is getting smaller and smaller, and finally left the nucleus, and some entirely by ice and dust the composition of the comet may be the last completely disappear.

Comets also are likely to be the sun or the planet's gravitational force cracking, the famous comet than the drawing is an example of revolution around the Sun's cycle of 6.6 years, January 13, 1846 Birane comet suddenly split into two, and then return after they At the same time also the return of two comets, but in 1859, they were gone, and then, in their orbits intersect Earth's orbit and where there is a large meteor shower, comet Birane This shows that have been completely neutralized.

Large comet colliding with Earth at the time, the threat to humans is obvious. So far, there are records of a comet colliding with the largest in the June 30, 1908 took place the morning of that day, the Tunguska in

Siberia in Russia have taken place over a violent explosion, in addition to 1,000 km have seen a huge explosion fireball, but also heard the explosion sound explosion shock wave will be within the scope of a few hundred square kilometers of forests and tear down all the burning, the forest full of dead animals, including feeding a large group of reindeer in this. Fortunately, this desolate and uninhabited, so there were no casualties. After the visit here of scientists found that in addition to the land, as well as charred animal died, the meteorite and found no crater, so assume that this is a matter entirely composed of water comet, the comet into the Earth, friction with the atmosphere produce very high temperature, its evaporation so fierce comet at about 10 kilometers away from the ground over the intense explosion occurred.

Compared to the larger asteroids, the comet's impact on the devastating impact of human being smaller, but a large comet impact, but also human enough to suffer huge losses overall, it falls short of human extinction.

Near-Earth comets and asteroids than the much smaller, and they generally have a long tail, but also to facilitate observation. Today, we have observed near-Earth comets have been about 50, the figure is far below the near-Earth asteroids; it seems that the probability of a comet colliding with Earth is much smaller, but this is not the case. The most prominent feature of comets is that it highly vulnerable to the sun with the planets orbit perturbations and transformation, but also in the edge of the solar system's comet may inexplicably went inside the solar system, so the probability of the comet colliding with asteroids even have to large, and very hard to detect. Thus, scientists in recent years have paid more and more attention to the study of comets.

(3) Comprehensive analysis of extraterrestrial objects'impacts

Large extraterrestrial objects the chance of colliding with Earth is very small, but is a sufficiently large asteroid colliding with Earth, was the whole of human being may become extinct. Therefore, we can not because of the small probability of such a thing then to ignore it, because as long as human beings to catch up so once again it is impossible to make up for losses, Furthermore, this kind of impact there is very realistic.

What would be finally the threat of extraterrestrial objects for human being? Many scientists have carried out this study conducted an in-depth, but the difference was larger perspective, different people have different conclusions, in a combination of many different viewpoints, we can narrow it down the following conclusions:

1. The more the impact of large chance of the smaller objects, and each of the solar system with a large celestial bodies (including Earth) billions of years in their own orbit operation repeated several times against this kind of impact will the increasing frequency lower.

2. For objects of different sizes against the impact of frequency and can be estimated as follows:

① 1 for about 80 meters in diameter, the impact of celestial bodies may occur once in 100 years, so the impact can cause a few hundred square kilometer area of a large number of lives have been destroyed, and the range of 10 thousand square kilometers on the ecological impact will be;

② A diameter of about 800 meters in the celestial collision may occur once in 2000, so the impact can cause tens of thousands of square kilometer area of a large number of lives have been destroyed, and one million square kilometers on the scope of the ecological impact will be;

③ A diameter of about 3 kilometers in the impact of celestial bodies may occur once in 1,000 years, so the impact can cause one and two hundred thousands of square kilometer area of a large number of lives have been destroyed, and the global ecosystem will be affected;

④ A more than 10 kilometers in diameter, the impact of celestial bodies may occur once in 7,000 years, so the impact could cause global extinction of many biological species, subjected to enormous global ecological destruction, until the restoration of many years;

⑤ A diameter of more than 100 kilometers to the impact of celestial bodies hundreds of millions of years to occur, so the impact should be able to destroy the global ecosystem, the extinction of mankind and human civilization.

3. The most frightening and more realistic impact of celestial bodies is the impact of Eros stars, it is the largest near-Earth objects in the first, as a diameter of 22 kilometers of the asteroid, if colliding with Earth, will lead to a large number of personnel were killed and the Earth the overall ecological destruction of human civilization suffered great devastation. However, the impact of Eros stars does not lead to human extinction. But it appears from the present it does not impact the earth signs, and this asteroid we have a reliable follow-up observation.

In fact, today we have the impact of extraterrestrial objects has considerable ability to prevent. Observing the development of space technology has been more and more details will allow us to grasp the solar system and operation of the distribution of celestial bodies, in particular, larger for those who may pose a threat to the survival of human whole objects, the degree of master is increasingly high. And the development of space technology, it gives us the ability to travel in space is becoming increasingly strong, and mankind has landed on the moon and continue on to Mars or other planets, in this century will be entirely achievable. As for the explosion of nuclear warheads, not only can destroy large celestial bodies, but also can change their orbit. Moreover, not only the spacecraft can be nuclear warheads accurately into the depths of space, missiles can also put them into the space near Earth. Because of the conditions above, then to the power of human beings the possibility of interception of the celestial bodies colliding with Earth, it is becoming increasingly likely.

Scientists are optimistic that, as long as several years in advance to predict the possibility of objects colliding with Earth, they can change their orbit, away from the earth away. If the forecast for several decades ahead of such objects, using ordinary explosives spacecraft into space will be slightly changed the orbit of celestial bodies would be able to impact the Earth from. Therefore, as long as human observation to further enhance the capacity of its own, completely avoid the impact of small objects is a very real thing.

In fact, scientists for celestial bodies colliding with Earth to deal with a wide range of options being considered, it was suggested that the laser can be used to allow slow down the asteroid to change its orbit; was also made to promote an even smaller possibility of the asteroid impact into the Earth's larger asteroid to change the orbit.

It is worth mentioning that, NASA is implementing an asteroid colliding with Earth to prevent the plan known as the "angry Chinese" project. It is to be known as "Han anger" of the robot equipped with a nuclear power may be launched into the celestial bodies colliding with Earth, and then, like a pile-like robot fixed in the celestial bodies themselves, and the use of electromagnetic thrust has always been the role of technology in objects so that objects to change its orbit gradually.

Section III: Threat on Earth

To see from space, our Earth is a beautiful blue planet, which stand out, be different, in the current scope of human vision in space, Earth is the only planet of an ecosystem, and is the only planet of civilization, it beauty is unique.

The main components of the Earth is the metal and rock, and it is mainly the surface of the sea, the sea area of more than 70% of the Earth's surface land area of less than 30%. A rule of the earth is not a complete sphere, and its equatorial radius of about 6378 kilometers, larger than the polar radius of 21 kilometers. The Earth's surface is the highest peak Mount Everest, 8844.43 meters above sea level, the depths of the ocean is the Mariana trench, the depth of about 11 kilometers. Therefore, the Earth's solid surface and downs of about 20 kilometers total.

The Earth's interior from the earth's core, mantle and crustal structure, external from the hydrosphere, atmosphere and magnetosphere composition, both within and outside the Earth's various parts, the overall composition of the Earth.

Earth is like the human mother, it gave birth to human beings, human feeding. However, it is far from being a loving mother earth, earthquakes, volcanoes, floods, winds do not know how many people have claimed the lives of so I do not know how many people were left homeless, and to this suffering and sorrow. We are well aware of the importance of the Earth's human, very human on the Earth's unique attachment, from the Earth of human being will not be able to survive, and are for this reason that we must take into account the Earth's impact on the survival of mankind.

I. Plate movement, earthquakes and volcanoes

Early in the 19th century, on the laying of undersea cables in the Atlantic Ocean, we have found that the central seabed of Atlantic Ocean is much lower than that on both sides. After further inspection of the Atlantic understand that the Mid-Atlantic seabed uplift in the existence of a central deep-sea ridge, like the Azores, Ascension Island is the central ridge portion of the exposed surface of the water. After scientists in the Pacific at the end of the echo sounder were also found in the eastern Pacific Ocean has a very long table mount.

The 20th century, the 50's, there is more in-depth study of the oceans, scientists have final confirmation, the world's oceans, there is a coherent and long-kilometer submarine of sixty or seventy thousands of mountains, as a result of this mountain range in the Atlantic Ocean and part of the Indian Ocean is located in the middle of the ocean, so called mid-oceanic ridge, the above-mentioned central Atlantic ridge table mount and the Pacific are part of mid-oceanic ridge. The total length of mid-oceanic ridge around the world could be two weeks, the land of mountains on earth, none can compare, but deep in the sea, people can not see.

Mid-oceanic ridge in the further study found that, in general, the top of mid-oceanic ridge has a deep rift, which may be as deep as 1000-2000 m, the ridge from the top split into two semis - This phenomenon in the Atlantic Ridge Mountains parties. Ridges are often in the vicinity of the earthquake and volcanic activity. Determination of seismic waves through and found the top ridge of the earthquakes Department mantle longitudinal wave

speed is less than at the top of the general mantle longitudinal wave speed, which in the mid-oceanic ridge under the heat and light than the mantle material, it is this material Chung or the ever-expanding, causing uplift of mid-oceanic ridge.

A better understanding of the oceans lies in the detection of the ocean trench; the world's deepest trench has a greater depth than the height of the highest peak 2000 meters larger than the trench in the ocean along the Pacific coast in the distribution of the most common of the trench, between the most sharply.

At the conclusion of a large number of geological survey and research information, the scientists said the sea-floor spreading. In their view, the Earth's magma ocean upwelling is the driving force for expansion, mid-oceanic ridge is at the top of the upwelling of magma underground exports, the upwelling of magma at mid-oceanic ridge oceanic crust will tear, and will continue to push the oceanic crust to both sides, and the magma will cool and then kept on tearing the mouth filling, mid-oceanic ridge in the ocean as the center to both sides of the expansion of mid-oceanic ridge uplift, magma upwelling is caused by thermal expansion results.

Specific analysis of the Atlantic Ridge seamounts, it is to the end of the upwelling of magma in the expansion of Mid-Atlantic Ridge, the Atlantic oceanic crust into two, the west side of West Atlantic and the Americas, the eastern side of the Atlantic and East Africa and Europe. Upwelling of magma continued to promote both sides of the oceanic crust, oceanic crust to make the West Atlantic and the Americas continue to move west, the Atlantic oceanic crust east Africa and Europe and continued to move eastward, so, more and more wide Atlantic.

In that case, the introduction of the Mid-Atlantic Ridge, who is going to take this space? In other words, widening the Atlantic Ocean at the same time, there must be other regions will narrow, narrowing the region where it is? We can see from the other side of the earth to find the answer to the Pacific. When the Mid-Atlantic Ridge Department of magma upwelling at the same time to promote the expansion of the Atlantic, the Pacific ridge upwelling magma Department is also on both sides of the ridge push mobile oceanic crust, but the movement of the Pacific, the result of oceanic crust and the Atlantic Ocean is different, because no space can hold the Pacific oceanic crust, therefore, in the oceanic crust at the junction with the land, chose the down oceanic crust seduction, it is in the trench, the oceanic crust sub ducting into the ground, and mantle melting for high-temperature magma. Therefore, the Pacific ridge magma Department to promote both sides of the oceanic crust moves to the Pacific did not widen, but to take the space after the expansion of the Atlantic, so, on the contrary has been narrowed to narrow.

It is precisely because of these reasons, we can see both sides of the Atlantic rarely found the existence of trench, and the Pacific Rim are all over the trench.

Expansion of marine continental drift is that the inheritance and development, on this basis, it is further proposed that plate tectonics. Scientists believe that Earth's lithosphere are few clear-cut fissures, they are a mid-oceanic ridge, trench, or fault as a symbol of the earth's crust split into many units, forming a relatively independent of the plate, the plate floating in the mantle asthenosphere above and under the Earth's internal heat drives moving, and they squeeze rifting or collision, the formation of mountains, valleys and rivers, or ridge, trench and island arc.

Earthquakes, volcanoes and tectonic plates and is closely related to movement, from the history of the distribution of earthquakes and volcanoes can be seen that plate boundaries and the distribution of earthquakes

and volcanoes are the same. For example, the earthquake-prone province of China Taiwan and Japan's Ryukyu Islands, that is, as a result of the Philippine plate and the Eurasian plate collision caused by the formation of the collision of the North Luzon Trough to the east is the Luzon volcanic arc. Earthquake-prone areas of the United States, San Francisco, it is as a result of the Pacific plate and the result of the Inter-American plate.

Seismic and volcanic disasters to human beings is brought about by long-lasting, but also enormous. To volcanic eruptions triggered by the disaster as an example, the Year 79 years August 24, the sudden explosion of Vesuvius in Italy, together with fierce hot lava with gas to go up the sky, moment the foot of the hill between the bustling city of Pompeii was buried in volcanic eruption objects. Occasionally after more than a thousand years people have been found in the buried cities during the excavation, they also can see the city's residents died of gesture, their fears and look unprepared clear. The Caribbean Sea in 1902 on the island of Ma Pei-lei tam Nick volcanic eruptions, April 25 at the beginning of a volcanic eruption, volcanic ash and steam direct sky, loud rumbling volcano triggered by a magnificent view from its 10 km outside of St. Pierre the inhabitants of the city every day in high spirits to watch this rare landscape. However, on May 18 suddenly angry volcano, volcanic eruption suddenly rose several hundred meters high, mixed with volcanic ash in a large number of toxic gases, to sensational wave pressure to the St. Pierre, this bustling port city of the beautiful to become an instant a sea of flames, with the exception of a shoemaker and a prisoner of repair, the entire city of 28,000 people were buried in the disaster. After that, the prisoner is being held in the basement of a semi-confined only survived, but his police guards were spared.

Plate seismic activity has caused more destruction, such as the famous 1923 Kanto earthquake, resulting in 143,000 deaths. The centuries the greatest casualties of China's Tangshan earthquake, the earthquake occurred in Tangshan City of Hebei Province. July 28, 1976 is extremely hot day, at midnight, people from the heat wave in the agitated by the slightest breeze of love, just to sleep, 3:42, magnitude 7.8 earthquake destroyed Tangshan instant the industrial cities. Earthquake caused houses to collapse, collapsed roadbed, bridges destroyed; near a large coal mine cave, tunnel goes down, the collapse of support, equipment flooded, mined-out area collapse; some areas the spread of highly toxic gas, explosive combustion of inflammable materials. In this earthquake, a total of 242,000 people killed 164,000 injured people.

Occurred in China's Wenchuan earthquake in Sichuan is another very serious earthquake casualty. At 14:28 on May 12, 2008, the Indian Ocean Plate and the Asian plate collision, resulting in up to a magnitude 8.0 earthquake in Sichuan occurred in the mountains, earthquakes and even the scope of damage and affected more than the Tangshan earthquake, even 2,000 km outside the capital city of Beijing and neighboring Thailand, Myanmar and other countries felt that there can be marked. Caused by the earthquake killed nearly 90,000 people missing, injured more than 30 million people, the earthquake also formed a mountain gorge in more than 30 Barrier Lake. If the earthquake occurred at night or in densely populated areas, it would result in more disastrous casualties.

Earthquake and volcanic eruption also caused a tsunami and fire, in 1923 Tokyo earthquake just occurred in the noon hours of cooking, the stove makes the dumping of the earthquake, resulting in two to three hundred Department instantaneous fire, Daisaku wind, fire by the wind, resulting in 10 Multi-million people perished in the flames.

Recorded the biggest casualties since the tsunami occurred in December 26, 2004, when the Indonesian island of Sumatra in the Indian Ocean near the sea, have taken place in the 8.9 magnitude earthquake, the earthquake triggered the tsunami led to Indonesia, Sri Lanka, India, Thailand more than 10 countries affected, etc., and

even far away in the other side of the east coast of Africa have been affected. In the tsunami affected areas, many are well-known tourist destination, at this time and are the tourist peak season; tourists from all over the world are gathered in the waterfront, but suddenly and unexpectedly to drowned. Tsunami caused death and the final number of missing more than 225,000.

However, earthquakes and volcanoes to human beings regardless of the disasters brought about by too great, either to human beings no longer will bring the number of disasters, the impact of these disasters is the human individual and group survival and well-being, which is impossible to human beings after all, the overall survival and pose a threat to the well-being.

Instead, we should be more objective, scientific understanding of plate activity, there is no activity on the plate can not be formed mountains and rivers, no mountains and rivers of the Earth's ecology will not be able to form a circle as the Earth will be a lack of vitality, there is no vitality, and biological in this environment it is difficult to develop and evolution.

Astronomers in the solar system major planets and their satellites are considered the earth is only the existence of the solar system planet plate movement. With our satellite the moon as an example, it is almost the same period of the formation of Earth, we can see numerous craters on its surface, that are pre-formed in three or four billions of years. Earth and the Moon are also in the same environment, but the initial formation of the Earth's surface that has long been difficult to find traces, which are the vast majority of the surface, has been updated. It is only the earth's plate movement was unique, that makes a 46 million years after the Earth is still unlimited vitality, and perhaps this is the planet Earth and life have become an important factor in a civilized planet.

In fact, the plate movement to the human disaster, it is also the benefit of mankind. The formation of many important mineral deposits with the plate movement is closely related to plate movement led lithosphere, asthenosphere, hydrosphere, the atmosphere between the material and energy exchange, the exchange is such a variety available for human use of mineral.

II. Climate change and glacial period

Earth's normal climate change is the law of the cold winter, spring and autumn warmth, hot summer, because all over the Earth by sunlight due to a difference, even in equatorial regions such as the temperature difference is relatively small, but there are also the rainy season and dry season of points. Often some unusual weather in some years, or an increase in hot weather or extended cold season, all this will bring some trouble to the people, such as global warming may cause flooding, hurricanes harassment, disease prevalence, or an increase in agricultural pests and diseases; to reduce the possibility of global warming caused by agricultural production, livestock froze to death, traffic congestion, and so on avalanche wounding. However, the overall survival of human events have affected this year, agricultural production may be a good harvest next year, and general disease, floods, disasters such as avalanches can not be far from endangering the whole of mankind. As for the four seasons climate change is beneficial to humans, such changes can not only enrich people's lives, and the spring harvest species, it is tough for half a year in winter people can enjoy while sitting on the stove for some quiet time, our ancestors have been so overnight.

However, there is a degree of anything more than a certain limit, there have been good things may become a disaster, if a cold for up to tens of thousands of years, or a fever for several years on it is different. The surface of our planet not only change throughout the year, and the total risk of long hot cold illnesses, and sometimes even longer cold or heat for several tens of millions of years long, or even millions of years.

More than 700 million years ago, the Earth has gone through a very cold day, up to several tens of millions of years in time of snow-covered half the globe; even near the equator are the traces of glaciers. And 1 billion years ago, the Earth has gone through a very hot season, in a few tens of millions of years, the polar ice melting, Antarctica and Greenland as warm as in spring, dinosaurs walk here.

Earth is experiencing a time when the heat changes in the cold, scientists in-depth analysis of the Earth found that there seems to be much change in the law of this, about every 2.5 million years or so there is a long cold period, and this cold period known as the Ice Age. In fact, the glacial period the temperature is not set in stone, each can be divided into a number of Ice Age of Ice Age a little, in order to show the difference between the former general said that for the Ice Age, the latter for the Ice Age, Ice Age in between two warmer called inter-glacial period. At present, we are in a state of "Quaternary Ice Age" is a large glacial interglacial stage.

In the Quaternary Ice Age since the big time in 200 years, can be divided into several glacial and interglacial stage, because we are in the interglacial stage, there is no sense of glacial cold.

From our most recent Ice Age began 1.8 million years before that, beyond 1 million years ago, when the Northern Hemisphere of Greenland, across Canada, Alaska and the northern United States, all of Siberia and northern Europe, Iceland and most of all were snow-covered. Due to large amount of water converted to snow and ice, causing sea-level drop of 150 meters, the disappearance of the Bering Strait, North America and Siberia, together; in Asia, the Yellow Sea in eastern China, the Bohai Sea off all exposed, the Korea Strait and Tsushima Strait are also gone exist, linked to the Japanese archipelago and the Eurasian continent, Indonesia and Asia are also connected together; In Western Europe, the sea water out of the English Channel, the British Isles has become a part of the European continent; and Australia and Asia by a land bridge connecting the mainland.

Why on Earth would appear alternately glacial scientists conducted a long-term study, many perspectives, but also very different, for example: Some people believe that Himalayas uplift from the sea floor, a large number of carbon dioxide in the air or from the seabed occurred in Shanghai combined with the rock surface is 200 million years to reduce atmospheric carbon dioxide concentration, global climate cooling one of the important factors. Others believe that the sun around the galactic center in the operation of an orbit relatively dense material and interstellar clouds, when the sun through this piece of interstellar clouds, the interstellar clouds will cover part of the glorious sun, although it is difficult in the face of the earth interstellar clouds to the naked eye to see the effects of sunlight, but it suffices to change the temperature of the earth's surface. The reasons for holding this view is that the Ice Age cycle coincides with the center of the sun around the galaxy coincides with the cycle, is 2.5 billion years. So on and so forth.

However, there are not any kind of perspective to fully explain the root causes of ice age, but also not able to persuade all people. Ice Age is likely to be from a variety of factors; including those we may not realize that factor.

Earth's major climate change cycle, the overall human and ecological impact of the Earth is huge, but it can not affect the overall survival of mankind.

Global climate is a gradual process, rather than mutation, regardless of heat by the cold, or from warm to cold, during which at least after all of the Millennium. In the ice age comes, the ice sheet covering the first two, and then from high latitudes to the low-latitude regions, the northern and southern hemisphere high latitudes will not fit for human habitation, neither for farming. However, with the increasing global ice and snow, the sea will continue to retreat, and much shallow water above the surface will become available for agricultural cultivation and human a place to live. The colder the water more easily dissolved oxygen, and thus more conducive to the growth of marine organisms, the Antarctic has become a paradise for fish and shrimp, the reasons in the case. Whales, seals, walrus, penguins can survive in the Polar Regions, but also rely on a wealth of marine life as food for survival.

When the climate became hot, melting polar ice caps, sea level rise, sea eroded coastal lowlands, it seems that the space for the survival of mankind has become smaller for the cultivation of farmland less, in fact, is not so. When snow and ice melt, global warming, Antarctica and Greenland will become suitable for farming and living areas, and northern Siberia, northern Canada, and northern Scandinavia, is the original environment of the area, and then everything would have to change amount to anything good and pleasant and good farm ranch. The increase also includes the land has long been on the original kilometers-thick ice sheet Shen Harbor land pressure, when the snow melted, they will continue to rise, and finally promoted to the land. Warming lands are suitable for plant growth and reproduction of animals on land.

From this we can see that climate change can make all the basic balance, regardless of temperature increase or decrease the land available for human use area there will not be much change in the Earth's ecological environment will not be too much damage.

If we take into account the extreme circumstances, such as 7 million years ago as the Ice Age, even near the equator there are glaciers, and the overall survival of human being will not be jeopardized. Development of science and technology can do today, the snow and ice in the cold winter greenhouse can be used to produce fresh vegetables and fruits, only this point, and we have confidence in the view that Ice Age can not endanger the survival of human being as a whole.

In fact, it is the Quaternary Ice Age 200 million years ago, from primates to human beings capable, upright, and the final completion of the milestones of modern Homo sapiens evolved. Ice Age in order to ward off the cold, the evolution of animals with thick skin, long hair, and hair of humans has less and less, because they learned to use animal skin as a simple clothes, learned to use fire for heating.

Our courageous ancestors, in the face of cold, they had no choice to survive the warm equatorial Africa, the environment, but to Asia, to Europe, although much cooler here, conditions are even worse, but the ancestors of human courage.

It is cold ice age, resulting in snow-covered northern and southern hemisphere high latitudes, sea level dropped more than 100 meters, so that Australia and the Asian continent to form the land bridge to the disappearance of the Bering Strait, so human, through a land bridge to enter Australia, but also across the Bering Strait into the Americas, then, the human footprint all over the world.

Quaternary Ice Age in the cold, many organisms can not stand the cold test, as each of extinction, and human nature in the struggle with the constant development and expansion, completed the history of Earth's greatest biological evolution. As the original, as the conditions are not difficult to destroy human ancestors, we do not have any reason to believe that the face of the next Ice Age, with a high degree of wisdom and has advanced science and technology of modern humans will succumb to cold and suffer extinction.

Earth 38 million years ago, there will be a low life, 5.3 billion years ago large and complex life in the ocean, 4 billion years ago to the various biological comprehensive land, the Earth experienced this many times during the Ice Age, since it is not suitable for the environment, subjected to the extinction of many species, but life has been extended to today, has never completely stopped. Earth today has never had the wisdom and civilization, from this point can be corroborated, Ice Age should have nothing to fear.

III. Disappearance of geomagnetic

Space is full of cosmic rays, cosmic rays come from a variety of high-energy space particles, they are close to the speed of light is not the time to attack our planet. If the human or other organisms are directly affected by the cosmic rays is a very dangerous attack, and those high-energy particles can penetrate the human cells will not only kill cells, but also to kill or change the human genes.

However, usually we do not feel the injury cosmic rays, because the earth's surface there is three barriers to block cosmic rays. The first barrier is the Earth's surface layer of the atmosphere, which is the most powerful bulwark. When cosmic rays at very high speed "visit" the earth when the atmosphere is bound to molecules and atoms in the collision occurred, each collision, energy will be consumed, when the particles reach the surface when the final, energy has become very low, on the human body will harm the ability of very small.

Another barrier is the Earth's magnetic field. When cosmic rays across the magnetic field, the need to use energy to overcome the role of the magnetic field, a number of low-energy cosmic rays penetrate the magnetic field in the absence of that it is being captured by Earth's magnetic field, and some higher-ray energy through the magnetic field can reach the surface its energy has also been a great loss. Earth's magnetic field on the barrier function of cosmic rays, second only to the protection of the Earth's atmosphere.

There is a layer of earth over the barrier of cosmic rays, which mainly come from the sun is the interplanetary magnetic field, the magnetic field in the Earth's magnetic field and the formation of a layer of the external barriers, it is wrapped with the Earth, its role and the role of the Earth's magnetic field is similar to the energy consumption of cosmic rays.

We would like to say here is related to the issue of the Earth's magnetic field. Earth's magnetic field for the protection of life on Earth is very important, but in the longer time scales within the study, the Earth's magnetic field is not stable, it is weak when strong and sometimes change Arctic Antarctic, the Arctic into the Antarctic, and entirely disappeared when the magnetic, Earth's magnetic field so that total loss of protection. Need to think about the disappearance of the geomagnetic influence on human beings, we must first understand the nature of the formation of the geomagnetic field.

In physics we all know that electric and magnetic induction can be each other's, and was known as the electromagnetic effect, that is, power can be magnetic sensors, magnetic sensors can also be electric. In the core material is a melt-shaped part of the iron-nickel metal, rapid rotation of the earth by the role of liquid iron-nickel metal in the earth's core is rotating the way in the campaign, which is like a strong current in underground flow, this stock would have a strong current of the magnetic field, which is the Earth's magnetic field.

In the study it's found that the geomagnetic field was in such a law change: the location of the pole to pole position away from the axis will not be too far away, and after the strongest magnetic field strength will gradually after weakening to a certain after the magnetic field will disappear briefly and then the magnetic field will be restored, and gradually changed, but the direction of the magnetic pole will be reversed, that is, the original North Pole into the South Pole, Antarctica will be turned into the Arctic, and so back and forth. In the past 70 years, the Earth's magnetic field direction has been so, but again over the past 45 years is the turn. In the last 1 million years of geomagnetic field study found that an average of 400,000 to 50 million years polarity will be reversed once the shortest turnover time is only 5 years.

The phenomenon of magnetic reversal for now there is a reasonable explanation, this is the core of the molten state due to iron-nickel metal-induced changes in the flow direction. The iron-nickel core melt will not always flow in one direction, when the flow direction at the Earth's magnetic poles reverse naturally reversed, and the flow direction to change the pause in the process of critical points, that is, than that of the disappearance of the geomagnetic short period of time. As the core of iron-nickel melt flow direction by the direction of the earth's rotation around, so regardless of the direction, the magnetic pole will not deviate from the polarization axis too far.

In that case, the local magnetic field in a loss of short-term phase, the Earth's magnetic field is lost to the protection would be a kind of situation? To be sure, under normal circumstances, the protection of the Earth's atmosphere, cosmic rays and solar particles can not disappear in a short period geomagnetic fatal lethal to humans. Because of the 600 million years of human evolution, the Earth's magnetic field has disappeared briefly before, the evolution of mankind has not been great at least the impact of life on Earth have not been affected. Scientists to stop the Earth's atmosphere by cosmic rays and solar radiation research, has also been evidence of a corresponding, which is short-lived geomagnetic disappeared, under normal circumstances, the impact of the survival of mankind will not be decisive.

However, the special situation of non-normal is what? Because in human life on Earth billions of years in the future, many have special circumstances that may arise.

The most important source of cosmic rays is a supernova in the Milky Way the explosion , a large-scale explosion of supernovae, the release of the intensity of cosmic rays is the sun-ray release of such a star of many quadrillion times. So, if a supernova we are not far away from an explosion occurred inside the scope of what is the situation?

Studies have shown that as long as the explosion of supernovae over 25 light-years from Earth, the Earth's atmosphere, the Earth's magnetic field and the protection of the solar magnetic field, such a high intensity of cosmic rays to a large extent, will not endanger the survival of human being. However, if the magnetic field at this time just to catch up to the disappearance of short-term, the situation will be much more severe, due to the disappearance of the geomagnetic field, Earth would be subjected to the solar cosmic ray particles and the

double attack, only the Earth's atmosphere and the solar magnetic field would not be sufficient to resist this kind of offensive. Therefore, it seems to be a safe distance from this to about 30 light-years. Moreover, from today to the changes in magnetic field can be aware that in the next 1 million years, the geomagnetic field will inevitably disappear once the process of short-term.

In the next 1 million years, the most likely to break out from our more recent supernova is Betelgeuse, but it is 600 light years away from us outside, even if it coincides with the explosion of the short-term disappearance of the geomagnetic field line, generated by such a large distance cosmic rays, we are the Earth's atmosphere and the solar magnetic field can be sufficient to remove its security.

In fact, in the range of 30 light-years we have not found the explosion of the possibility of a supernova, but also by the scientists calculated the probability of the explosion of a supernova 30 light years the scope of the explosion of the opportunities supernova can only be met once in ten billions of years, which Geomagnetic again just to catch up with the disappearance of, the opportunity is too small.

If that happens then we do not have to fear, first, the Earth's atmosphere and the solar magnetic field the two Road barriers of distance in this explosion posed by supernova cosmic rays, after the weakening of human beings will not pose a threat to the overall survival; Second, the explosion of supernova cosmic rays have a strong will not be very long duration (23 weeks there), but the explosion of pre-supernova should have signs, as long as the proper arrangements to do a good job can be avoided strong cosmic rays of the injury, because we the external walls of houses and roofs, can be a barrier to block cosmic rays, as long as not exposed to the outdoors, pay attention to the appropriate houses to deal with, it would not have been hurt by strong cosmic rays.

Section IV: Threat on Extraterrestrial Life

Extraterrestrial life means that, apart from people outside of our planet's intelligent life on other planets that is what we usually aliens. Alien invasion is keen to talk about the topic, many science fiction movies, by people's curiosity, but also play up to the danger of invasion of extraterrestrial life. So, if there is a genuine invasion of extraterrestrial life, no doubt for a devastating human catastrophe may be because in the eyes of extraterrestrial life, the earth is completely different organisms, may treat as ordinary human beings like animals, they will not be human to give any sympathy and human being, the brutal massacre of the Jews for even more than Hitler. Of course, extraterrestrial life may be very friendly towards the earth; they came to Earth not to occupy, but to tourism and friendship, or to out of curiosity. Nevertheless, in dealing with the attitude of extraterrestrial life, the guard against the invasion of extraterrestrial life and the killing, far more than hope that the friendly extraterrestrial life far more important, must not be wishful thinking to hope that things taken for granted in our lives friendly.

No doubt that so far we have not found the existence of extraterrestrial life of any evidence of the Earth in a variety of archaeological excavations and geological exploration, and there is no definitive evidence that extraterrestrial life has visited Earth, and all on the question of extraterrestrial life just stay in people's subjective thought.

Even so, we have every reason to request hundreds of millions of years the human standing on a long-term perspective, the threat of extraterrestrial life should be taken seriously.

Because so far, we know only the wisdom of life on Earth who, in addition to the earth from falling into the hands of individual meteorites found traces of micro-organisms in addition, there is no other way of clues to the existence of extraterrestrial life. Therefore, only through the study of our planet, and in order to infer the existence of extraterrestrial life may be; extraterrestrial life may exist in the universe, regional, and extraterrestrial life are likely to form on our threats.

I. Nurturing of Earth life

Through the solar system planets and their satellites to take close-up observations, as well as more in-depth and comprehensive scientific analysis can confirm, at least in the solar system, only Earth where we have the conditions for complex life to survive, and only have the complexity of life on Earth existence. So, what is given the power to create life on Earth then?

The formation of celestial bodies impacts the natural going through process of the earth. Many asteroids, meteorites and comets contain internal water molecules, when they hit each other and form larger objects; such water was taken corresponding to the Celestial Bodies. Impact caused by volcanoes and lava flows will be generated by high temperature evaporation and carbon dioxide along with 喷向 Sky, the Earth's early atmosphere of carbon dioxide is the main ingredient.

Carbon dioxide is the complexity of life can not be nurtured, but would also produce the greenhouse effect. Soon after the formation of the ocean, the ocean will have a micro-organisms, the first micro-organisms was born in about 38 million years ago, that is to say in just a few million years the Earth after the formation of a simple life with. After the emergence of a large number of biological species, and is the algae absorb carbon dioxide and biological oxygen release.

This absorption of oxygen in the process of release of carbon dioxide up to more than 30 million years, because the Earth needs a place too much oxygen, such as oxygen will have encountered most of the metal oxidation reaction, iron oxide, copper oxide and aluminum oxide, these elements are The combination of materials with oxygen, algae release oxygen biological must meet these consumer of oxygen.

5.3 billion years ago is the geological era known as the Precambrian era, the Earth appeared a large number of complex organisms, these organisms seem to appear in a vast ocean, the phenomenon known as the Cambrian explosion. We know that animals need oxygen to survive, therefore, must be a Precambrian oxygen production and consumption of surplus arising from the era. It is the birth of the extra oxygen Cambrian explosion prerequisite.

However, at this time has been only in the biological ocean, land is a dead silence in another 100 million years. About 4 billion years ago existed the only land-based organisms, as well as some animals and plants coming to land at the same time.

If the animal must have oxygen to survive, then it is the growth of plants to absorb carbon dioxide emitted oxygen, therefore, appear as early as shortly after the marine life, land plants should have, however, why the choice of plants and animals the same time from the Ocean to the land so slowly? Scientific research has shown that the ozone layer over the Earth's atmosphere is also in the 4 billion years ago, when formed, this time onto the land and biological time line exactly, this is a fortuitous coincidence?

The glorious sun of life has been described as the first element, if there is no sunlight and warmth, life will not happen, however, released from the sun, after all, is nuclear energy, it's glorious in not only the warmth we need, as well as A large part of highly destructive to life-ray, such as ultraviolet, X-ray, γ-rays, etc., if there is no protective device astronaut in space will soon be the face of the sun by the sun rays to kill.

Atmospheric absorption of harmful radiation is a protective coating, but the general atmosphere of oxygen absorption of the harmful rays is not enough, in the 4 billion years ago, due to harvest more than oxygen consumption, in the earth's ozone layer over the formed. Harmful for the ozone-ray absorption capacity particularly strong, although it is relatively small proportion of the atmosphere, but this has been enough to resist the harmful rays of the injury to life, there is no protection of the ozone layer, all life will forever be hiding in the sea; rely on water protection to survive.

We have a good life, "Shield", as a satellite operation of the moon around the earth; I do not know how many to decline to receive a guest from outside the Earth's celestial attacks. At the same time, the periphery of the earth have a series of planets like the Earth revolving around the sun, such as Jupiter, Saturn, Uranus, Neptune, and their quality is much greater than Earth, it is their enormous gravity of the inner solar system asteroids to attract out, and the Earth as a planet smaller, it could have been avoided by the impact of extraterrestrial objects trouble. Scientists had concluded that, if the solar system does not have a protector of the Earth, the Earth may never be the development of wisdom of life. Because the wisdom of life fostered by a very long time, if the wisdom of life whenever the fast breeding success on the impact of celestial bodies to a larger global disaster, all the efforts of the past will come to naught.

In recent years, the human exploration of the universe, the focus of our neighbor Mars and Venus have been studied, the human probe has landed this two planets, but also close to many of them in the air has been observed.

Observation results show that, although the distance of Mars from the sun than the Earth's distant third, but the average temperature of the surface of Mars is lower than -60 ℃, due to the diameter of Mars is only half of the Earth, it's the quality not only the Earth one-tenth of the quality of such a small planet is very difficult to seize the air outside, only the surface of Mars is extremely thin layer of air, the density of the Earth's surface is less than one percent of atmospheric density, mainly composed of carbon dioxide. Therefore, the Mars environment is not suitable for survival of life.

Venus and Earth are the most similar to a planet; its diameter is only slightly smaller than Earth that is the weight of 80% of the Earth, the distance from the sun than the Earth nearly a quarter. However, if as a paradise on Earth, then Venus is the real hell on earth, it is the surface temperature as high as 500 ℃, no water, a thick layer of carbon dioxide in the atmosphere than the Earth's atmospheric pressure is nine times higher in the surface of Venus, volcanic magma everywhere were signs of erosion than any life can not survive here. However, we have found in the surface of Venus have traces of the existence of shallow seas, the shallow water about 30 million years ago disappeared.

Why such as Venus and the Earth planet so similar conditions, can form a breeding life conditions? Moreover, the natural environment only in terms of simple, so similar to its environment, there were two different planets. After in-depth research and interpretation, two views were acceptable to all higher degrees. The first point of view, Venus from the sun than the Earth nearly a quarter of 30 million years ago, when the sun temperature, it will be Venus water to evaporate into space in the. In other words, precisely because of Venus and Earth from the sun is only a difference of a quarter of the distance, completely changed the fate of two planets.

Another view is that the two different from the fate of the planet does not lie primarily with the distance from the sun, but Venus's rotation is too slow, can not produce magnetic fields, and the metal center of the earth by the rapid rotation rate of magma of the earth have had a role magnetic field, which for the two planets was a foreshadowing of the fate of seeds. Because these scientists believe that the evolution of the magnetic field for the planet and the life to play a decisive role in breeding, it can prevent the solar wind and cosmic rays of the injury to life. Early Venus and the Earth have also gone through the same asteroid collisions, but also with the formation of the oceans, and the emergence of a carbon dioxide atmosphere. However, as Venus did not protect their own magnetic field, solar wind and cosmic rays of very strong anti-role, so that algae and even bacteria can not survive on Venus, so Venus's oceans like the Earth does not appear as algae biology, and thus there is no absorption of carbon dioxide and the release of oxygen systems. Thus, the accumulation of carbon dioxide in the atmosphere thicker, increasing the greenhouse effect, the surface temperature is getting higher and higher, so that all the water evaporated, until today, the temperature as high as 500 ℃, become a veritable hell planet.

There is no magnetic field on Mars, why is not the speed of its rotation, in fact, the rotation of Mars is also much faster than the Earth, but because of its size is too small, so there is no magmatic center, so there is no magnetic field of the protection of Mars. Thin air on the surface of Mars, the lack of sun block cosmic ray particles and the effective barrier would made life on Mars so complex.

Astronauts in space to observe the planet we live in when found on Earth is blue, very beautiful, it is different, stand out, like the desert in a small oasis. Over the past decades, many scientists in the detection and study of very complex form of life on the harsh conditions, when they are all the past results of observation and research into sorting out, and after a series of demonstration, many of Thinking people will return to the starting point for one of the most simple, that is, the earth is only an accidental universe, namely: in the vast universe of the galaxies a very fortuitous coincidence of a great star of a very casual around the planet, in the long the universe is not too long a time, a number of billion years, the occurrence of a series of very fortuitous events, the chance of this series is to create an extremely nurturing environment suitable for life, thereby creating a miracle in the lives of Genesis - mankind was born.

However, we are not ready to such an interpretation, because it is the scientific conclusion is yes, as long as there is sufficient time and sufficient conditions for the movement of material must be able to breed out of life, as well as the wisdom of human life this way, but such a long time, so that the requirements of the conditions too harsh, and we can not accurately predict, in the universe to a position if they would have created a miracle of life.

II. Required conditions for intelligent life nurturing

(1) Possible star system to nurture intelligent life

The wisdom of life needed to nurture extremely harsh conditions, first of all, must depend on stable, good and lasting burning stars. At the same time, the planet must have the required conditions for many, many, many, many times also need the chance, but also the needs of very, very long time Wild bred. According to our current ability to run, and it was not far from this series of conditions, one by one extra solar planet demonstration. However, we can open a list of prerequisites. It should be noted that these conditions are necessary but not sufficient condition, not sure that these conditions can not be bred out of the wisdom of life, and with these conditions are not necessarily on the wisdom of life to nurture. Because of the nurturing wisdom of life there are many we doing not fully understand the factors. Well, first of all, let us nurture the wisdom of life to analyze the necessary conditions for the stars.

Nurtured by the wisdom of relying on the lives of the stars must meet the following conditions:

1. It must be ongoing nuclear fusion of hydrogen in stars, the stars the only way to more stable combustion.

2. The system can not nurture the lives of stars. The quality of the larger star, its gravity caused by the more intense the internal thermonuclear reaction, the stars stay in the main sequence stars, the shorter the time. For example, a significant 1.2 times the solar mass stars in the main sequence stars only time more than 30 million years, according to the Earth's incubation period (i.e. 50 billion years), this star is only slightly larger than the sun is not up to standard.

3. A smaller stars around it is impossible the existence of intelligent life. The smaller star, issued by a corresponding smaller the light and heat, heat a small light-emitting stars, the planets must be able to rely on very close to the required access to the glorious life. However, when the planet is too close to the star, the star's gravity will be the planet's rotation will be slowed down greatly, so that the star of a face to face to receive long-term star baking, while the other side of the long-term cold in the dark, the In such a planet can not be complicated life.

In addition, when a star is only a small red dwarf star, its surface would be very unstable and often have enormous flares, a very destructive life-ray and such a star system is not suitable for the survival of life.

4. An entirely appropriate star must also be stable for billions of years gone through a history of burning, because the wisdom of life itself on the need for billions of years of breeding time.

5. The survival of life as a result of the wisdom of the planet must be a solid planet, there must be a carbon, nitrogen, oxygen, iron, silicon and other elements, and life itself can not be separated from carbon, oxygen, nitrogen and other heavy elements, because of heavy elements is by produced by the star, so only two or three generations after the life of stars can be bred.

6. In the universe there are many binary and triple stars, that is, two or three of the close proximity of the star, this star can not have a life around. In such a system, each star's gravity would interfere with the system of planets, resulting in a very volatile planet.

7. Can not be away from the big star of the close proximity. Because of the late star will be the evolution of supernova the end of the explosion of the form of his life, wisdom, life evolved in the absence of a high civilization, it is not able to prevent the explosion of supernova strong thermal radiation caused by cosmic rays

and the hazards. In addition, the quality can not be near the middle near the close binary, because the quality of the dense medium will be formed in recent supernova binary explosion.

(2) Possible planet to nurture intelligent life

There is a suitable star, but with the wisdom of nurturing a condition of life, and then have a suitable planet, it is necessary to nurture the wisdom of the life of another condition, this condition requires more than the conditions of the star is very likely more difficult . To the solar system as an example, all the planets, only Earth has bred the conditions for intelligent life, and even the conditions very close to Earth are Venus and Mars simply can not meet the environment for survival of life, then what kind of planetary conditions that must be met in order to have bred the wisdom of life's needs?

1. The planet must be large enough, you can "seize" the atmosphere.

2. The planet's atmosphere is carbon dioxide and oxygen, and nitrogen should be there; they constitute an essential element of life. The existence of the universe is a large number of hydrogen and helium, with oxygen or carbon dioxide is rare planet.

3. The planet must be the main element is a metal planet. It appears in astronomy, in addition to hydrogen and heavy elements other than helium are considered to be metal elements, only the metal planet, it may be a solid base for the lives of rock stars, the universe, this planet is very minimal.

4. The planet must be the right distance from the star position. A little far from the star was not shining, too cold; little access to the stars near the light and heat and too much will kill the life of overheating.

5. The operation of a planet around the star can not be too large orbital eccentricity. If the eccentricity is too large into a flat oval track, the recent stellar distance too, very hot, and the aphelion distance of stars and too far away, very cold, life will not be able to survive such an environment.

6. Planets can not be too inclined to its rotation axis. If you are too inclined, lying as it will be like Uranus rotation, therefore, always have a face for six months during the day and night for six months, which is actually half of the winter half of the summer, in the summer sun baking straight up to six months, the temperature up to several hundred degrees Celsius, in winter, the six months there is no bit of light, temperature as low as minus 200 degrees Celsius, life in this environment is not suitable for survival.

7. A planet on the development of a complex life there are many other conditions, some are definitely necessary, while others may be necessary, based on the Earth and terrestrial planets in the solar system research, including many of these conditions. For example, is generally believed that planets have water that is necessary, there is no water in the planet of life will not be able to survive (but on this point there are different views of life on Earth is oxygen metabolism - water system, it was speculated that some life on the planet may be nitrogen - ammonia system, or any other material system).

Another example: with the right of the magnetic field may be necessary because the magnetic field can prevent the release of cosmic rays and the star of the harmful rays of the injury to life.

III. Location of extraterrestrial life

(1) Possible location of extraterrestrial life

Based on the above listed breeds need the wisdom of the life conditions of the stellar and planetary conditions (although they are not only a necessary condition for a sufficient condition), let us take a look at the situation of the universe surrounding the solar system. 15 light-years we may wish to analyze for the sector, because more than 15 light years away even if we have to fly the fastest aircraft of more than 10 years.

So, in this range, there are 30 star systems, including 10 Double Star, a San stars, so a total of 42 single stars. Conditions from the star, in full compliance with the nurturing wisdom of life, little, barely in line with the only light years away from our Cetus 11.68 τ. Cetus τ is a single star, and the sun is the same as G-type stars, is a yellow star, but the sun's spectral type G2, Cetus τ is the spectral type G8, coolish than the sun, and it stay in the main galaxy on the same time with the sun is about 4000 million -60 million years. These conditions seem to have very much in line with the conditions for nurturing stellar life, but, τ Cetus is a metal-poor stars, it is only the metal of the Sun's 30 percent, which indicates that it is hard around the planet rock solid.

This shows that even in the absence of indicators to consider the conditions of the planet, the only indicators of a star is almost entirely ruled out on around us the possibility of the existence of intelligent life.

Of course, today we can confirm that very few of the extra solar planets, the first time since 1995 found that since extra solar planets so far discovered only less than more than 350 stars, but the vast majority of similar quality are big as Jupiter with hydrogen and helium planets, and these planets we are still far from reach-depth observation and research level. April 2009, astronomers found that the "Gliese 581e" is considered the best of our knowledge so far the most similar to Earth's solar system, extra solar planets, only Earth-based twice the quality, but it is a hot, fiery red planet, because it is too close from the star, the public is only 3.15 days to cycle, can never be the existence of life.

We are almost impossible to indicators used to determine the planets in the universe where life outside position, but only to study the use of stellar targets. But one thing is sure, and this is the planet of indicators should be more stringent targets than the star.

(2) Extraterrestrial life searching actions

March 2, 1972, NASA launched the space probe "Pioneer 10" successful launch, and its task is to detect out of the solar system after Jupiter to find extraterrestrial life, the information transmission earth. June 13, 1983, it crossed Neptune in the history of mankind after the first man-made aircraft flying out of the solar system. "Pioneer 10" on a gold-plated with aluminum, gold-plated aluminum sheet on the use of neutron stars on the positioning of the solar system marked the universe with the Earth's orientation, as well as both a man and a woman on Earth, and that the two circle the most simple molecular substance is made up of two hydrogen atoms. This is an earth card; this card can be preserved for 10 million years, which with the "Pioneer 10" has been toward the Taurus, about 200 million years after the star arrived in Taurus Aldebaran.

One year after the April 6, 1973, "a pioneer on the 11th," then set foot on the journey, its destination is the Eagle, about 400 million years after the arrival of the stars of this constellation. August 20, 1977 and September

5, NASA has launched the "Voyager 2" and "Voyager 1" two detectors, their objectives are Sirius and Ophiuchus. These detectors have brought the Earth's information and our greetings.

Send detectors to the outer solar system are only part of our lives outside geotropism one of the ways to transmit information, and more through the radio waves to send information on extraterrestrial life geotropism.

July 2003, in the authority of NASA and other departments, with the support of 52 countries from around the world more than 90,000 "e-greetings" from the earth toward the sun similar to five stars.

As early as November 1962, the former Soviet Union leaves Vitoria Observatory on the first extraterrestrial life geotropism sent a greetings message; it uses ordinary telegraph code sent to the depths of the universe of "peace, the Soviet Union, Lenin" simple words.

In November 1974, is located in Puerto Rico currently the world's largest radio telescope completed, in order to celebrate that with the telescope to the Hercules globular cluster M13 fired up to three minutes greetings telegram. After the leaves were also Vitoria Observatory in 1999 and twice in 2001 geotropism sent greetings extraterrestrial life, but also play a concert organ was sent to the space, hope can be heard outside the life earth of music.

Of extraterrestrial life have been very interested in not only keen to bring our message to the aliens, but also want to do everything possible to obtain information on extraterrestrial life.

In March 2003, U.S. scientists from the universe, billions of radio signals in the selected 150 using the Space Telescope Observatory of these signal sources for three consecutive days of observation, but the result does not tell us extraterrestrial life, the exact information. May 1960, U.S. astronomers has implemented an observation plan, they used radio telescope at Cetus τ observed for three months, but to no avail.

Almost every Observatory will explore extraterrestrial life as one of their work, but so far have not been the existence of extraterrestrial life of any reliable evidence.

We know, UFO phenomenon has always been a mystery not yet solved. Since ancient times, we have the UFO records, many of these people think that UFO is extraterrestrial life visiting Earth's evidence, but no one there is sufficient evidence to prove his aliens really seen.

Of course, it was claimed that aliens have seen, and even aliens have been hijacked. However, careful analysis can be found in almost all the hijackers claimed to be alien or aliens to get along with those who are middle and lower income groups in society, or a relatively low level of knowledge of farmers and members of the public. Is it a high degree of wisdom, and can achieve interstellar travel Constant extraterrestrial life, in one hundred trillion kilometers across the vast expanse of space, the only place willing to work with only a single way to deal with it the earth? Rational analysis of events like this should be far more than the composition of false real ingredients.

IV. Further understanding of extraterrestrial life

Although we have not yet got the exact visit to the evidence of extraterrestrial life, although we know that the wisdom of life's harsh breeding conditions, but should be sure that the universe must be the existence of intelligent life, on the grounds that our universe is extremely vast, even if the probability of re - there will be a small miracle to happen.

Just imagine, according to modern astronomical observation and speculated that the Milky Way have about 200 billion stars, the universe also has a three hundred billion galaxies, then stars in the universe will be up to as much as trillion stars. 150 million years ago in the since the birth of the universe, stellar evolution has been at least four or five generations (the first generation of star system, life can not be bred), so long years, so many opportunities, even if the wisdom of life and then bred harsh conditions, but also We can not just only the birth of a human intelligent life on Earth.

However, even then, extraterrestrial life visiting Earth is not the possibility, the possibility of a threat to Earth's smaller. Their breeding grounds or conditions for intelligent life is too harsh, dozens of our planet in the distance, hundreds or even thousands of light years between the scope of the development of a planet on the possibility of intelligent life is very small. The wisdom of this life and they do appear, they travel to the possibility of the same small planet. Because the distance is so far, by means known to mankind today, many problems are solved.

Star Trek only need to solve the momentum is a big problem. Apollo spacecraft landing on the moon program, only more than 40 tons, but the rocket has a launch mass of more than 2000 tons, more are part of the basic propellant fuel, which means the need for more than 30 of the propellant section of the train in order to more than 40 tons of the spacecraft to the moon. But the moon away from us only 380,000 kilometers and from our recent stars than the stars next to it is far more than 100 million times.

At the same time must also consider the constant need for an interplanetary flight of hundreds of thousands, millions or even tens of millions of years of time travel in this, there are a series of technical, physiological, psychological problems to be resolved. Moreover, as a smart person to carry out this kind of travel is also a lack of sufficient motive, because, in this journey will be accompanied by the generation of tens of thousands or even millions of lives and re-generation reproduction, and evolution, the realization of such a visit, its meaning and have to pay a very difficult to match. I think that if these smart people who really exist, that is, most likely, like our Earth to Earth on a probe, or an e-mail made to satisfy their curiosity only.

Of course, it was suggested that the theory of relativity will be in that time and speed on the formula. So, if the Einstein's formula is completely correct, then to further prove that ultra-long-distance space travel is not possible, because according to this formula, we can see, time, speed and weight of the relationship between interrelated, when objects close to the speed of light, the time has become very slow, but the weight of objects will become great, when the velocity of light reached when the weight of objects to reach infinity. In other words, human beings want to do the travel, in terms of speed is still far from reaching the speed of light, they took the bones of his body crushed. At the same time, there is no driving force to accelerate the spacecraft so heavy, it has moved from high-energy particle accelerator to accelerate the elementary particles in the test to be confirmed. When the accelerator to speed up a very light quality of the elementary particles, the faster the increase of energy can increase the speed after the less, when close to the speed of light, then how to increase the speed of energy can not be raised further to achieve the speed of light.

We also often see in science fiction movies through the "wormhole" to achieve time travel story. Then we can really do this kind of travel?

Wormhole is based on general relativity and quantum theory as a corollary, in accordance with this inference, time and space can be curly, which can create distance between or very close to find a way; in the future or far away from each other today between the past, to create or find a fast reverse to reach or arrive at the time. Because of this, people made time travel, as well as manufacturers can change the distance and time the idea of the time machine.

In fact, the wormhole is still a very immature inference, based on the idea of wormhole, can not explain many of the issues, such as: wormhole to allow travel into the past, it was suggested that, if a person travel to the past, his mother also will not give birth to kill themselves, what kind of situation? Another example: wormhole to allow astronauts in the absence of the starting time has been returned to the Earth, which is obviously contrary to the logic of relations.

In this regard has been at the forefront of academic Hawking, in "A Brief History of Time (Illustrated)" a book also frankly admitted that the possibility of time travel is not a conclusion.

The past century, we have been committed in the Earth billions of years this has experienced the vicissitudes of life on the planet to look for extraterrestrial life traces left exact, the result is negative.

Since the Earth 38 million years ago will be able to nurture a simple life, then it means that the Earth has the basic conditions for survival of life, extraterrestrial life would like if the occupation of the Earth, the Earth would like to colonial, vacation travel or think of the Earth, but also as early as that came to Earth. Then, in a few billions of years past since there is no extraterrestrial life came to Earth, we have reason to believe that the future will not be billions of years aliens visit Earth. Of course, this is only a logical reasoning, but should be a reasonable guess.

We know that the universe was born in 150 million years ago, formed in the early universe, the first group of star systems can not be bred the conditions for life, then the wisdom of life bred conditional second-generation star systems no later than 10 billion years ago, there should also be to re-consider the wisdom of life 50 million years of breeding time, so the wisdom of the universe, life in the first 50 million years ago should have been born.

50 million years for the development of an intelligent life is an extremely long period of time, in such a long time, no matter what kind of technology should be able to create out why there is no extraterrestrial life has visited this planet? I would like to only two possible reasons:

First, the laws of nature inherent in the universe and decided to constant interstellar travel would have on the long-range needs of an extremely long period of time, and to overcome the extremely difficult conditions, that can not be any intelligent life beyond the law to carry out long-distance Star Trek constant. In addition, the birth of the wisdom of life is extremely harsh conditions, only very occasionally may be seen in the universe to the very small number of individual planets, which then determines the Earth from the alien planet the past, away from the earth is also far away enough so that any land extraterrestrial life can not have visited the Earth's conditions.

Second, when the naturally produced any kind of intellectual life at the same time, it is possible to give at the same time the wisdom of the defects inherent in life, the inherent defects, making any extraterrestrial life have not yet had time to achieve the long-distance constant of Star Trek when the self-destruction. Is also possible extraterrestrial life will be active for some reason to stop the development of space flight technology, and therefore it has not obtained the capacity of Constant Star Trek. In this regard, the back of this book there are chapters on.

Although the possibility of alien invasion of Earth is extremely small, almost certainly should be negligible, but it should not shy away from this problem, thinking there are two points of reference:

First, any major events that have taken place in advance signs of extraterrestrial life should have threatened invasion, we will have time to prepare accordingly. This is specifically targeted to the specific preparations for extraterrestrial life, soldiers to be blocked, water to soil cover, has always been the case. Wait and see changes, calmly deal with the situation on Earth to fight to the death to defend their homes, perhaps the only thing we can do everything.

Second, in today's real life, too many to study the alien invasion, or to prevent the invasion of extraterrestrial life to do too much preparation, is a very foolish thing. Because, should there be any invasion of extraterrestrial life, we are all ready to be without any objectives to waste effort. We know that 5 million years of human history, however, into the industrial community and is committed to the development of science and technology, only 200 years, and today's science and technology has reached a very advanced level of the real strength of the alien invasion of Earth, its civilization the level of lead than a few people on earth billions of years, the gap between the number of billions of years, and can be used for thousands of years or millions of years to catch up on years? ! And we have no idea what the other side, the use of what to do to catch up with the preparation and is completely pointless. Moreover, the Earth 38 million years ago lives on with the environment to survive, but 38 million years have not been to visit a precedent for extraterrestrial life, and tens of thousands of years of human very long time, in the face of a few billions of years are impossible to determine the threat to the preparation and the absence of such input is necessary.

In addition, would like to stress here is that we have been committed to observing extraterrestrial life, but also has been sending information to the space and the solar system a number of probes sent, brought human being information, I believe that such actions is not rational. Should be said that the observation of extraterrestrial life, what information there is no problem, however, send a message geotropism extraterrestrial life is likely to be attracted to us big trouble.

According to previous analysis of extraterrestrial life the possibility of visiting the Earth is extremely small, this conclusion means that the two issues:

On the one hand, if we really can not contact extraterrestrial life, all our efforts are in vain, we all invested huge funds for this purpose are simply a waste, if that is merely to satisfy the curiosity of the case, such a price too high something. On the other hand, if extraterrestrial life is really able to receive our information, and I do not know than we do with the advanced science and technology, the number of times to visit the earth, waiting for our most likely will be the fate of the overall extinction.

It has been said that only allows us to detect alien information, and we do not send enough for them to do ethics. Those who hold this view is very naive and we observed extraterrestrial life information is only out of curiosity, or simply in good faith. However, we simply can not guarantee that extraterrestrial life is our attitude.

According to human and animal community can determine the survival of the law, and contempt of the strong will always prey upon the weak, the high civilization are always those who despise low civilization. Can visit a high civilization, the earth's biological reach the Earth, most of us will not "people" to see (and we have not the same species), free to kill us, even our food as they are most likely the If there one day, we humans will come by the end. Therefore, today's policy makers and scientists do not order a momentary curiosity, or for other purposes, to continue to do that may put an end to the matter of human being.

Section V: Threats of Laws of Evolution

I. Heredity, variation and evolution

A man can produce sperm, sperm cell, a woman can produce eggs, and the egg is the cell, when a sperm cell combines with an egg cell, and a new cell will be formed, which is fertilized. As a fertilized egg cell can be split into two completely consistent with their own cells, the cells of the two split their further split into four cells of exactly the same as their own, and then split into four and eight, it is so time and again split, and finally the formation of a living person.

Could be interpreted to mean the formation of life is the result of cell division, is the case, no true biological. So why do people have their own different, individual animals differ, each plant so strange? The decided biological characteristics hide in the internal biological cells.

In the cell there is a material known as deoxyribonucleic acid, or DNA, it is the basic unit for DNA, the genetic code of life is found in DNA. Simple division, cell structure from the peripheral cytoplasm and central nucleus of the composition, in the nucleus there is a very important material, which is the chromosome. Chromosome is a DNA carrier, which always appear in pairs, half from the male parent, half from the female parent, so half of the life traits of the decision by the male parent, the other half of the decision by the female parent. We are a total of 23 pairs of human chromosomes.

DNA molecule is composed of two long-chain structure of the double helix, like a twisted spiral ladder with handrails of the ladder by the composition of phosphoric acid and deoxyribose, which is the backbone of DNA, cross-files by the base pairs the composition of the genetic code of life on the cross carved on the ladder file. We usually decide what characters to life the "gene" is all the DNA fragments. Human Genome Project in accordance with the preliminary results, it is estimated that there are human genes 30000-35000.

DNA double helix of two long-chains, its structure is entirely consistent, but the direction is reverse, that is, both the two chains is the reverse, they were entangled with the right hand spiral. When in the cell division, DNA molecules of two separate long-chain removed, the formation of two separate chains, each chain with the other pair to form DNA, the formation of a new double helix, the new dual - screw with the original double

helix is fully consistent, which will have two exactly the same DNA with the original DNA molecule, which is self-replication of DNA.

We say that the self-DNA replication, the newly formed double helix with the original double helix is the same, so that a copy of the results of almost 100% accurate. However, all things are not foolproof, as many times in the copy in very occasional errors in copying, which is called "mutation."

We sometimes found in pastures, cattle, sheep baby occasionally produced a hybrid variation of this is the animal. In cropland, the one occasionally found in different crops Miller, this is variation. This phenomenon will also appear in humans.

In fact, all biological phenomena are variations, some to the next generation of genetic variation can, and some are not genetic. Most of the biological variation of a bad thing, it generates the individual than the normal individual poor viability. For example, we are talking about cancer, the body cells is the event of adverse results of variation; we are talking about radiation sickness, is a high-energy rays penetrate the nucleus, DNA damage in the structure of the nucleus, resulting in variation of results.

Variation in the biological, there will be a great chance not only to the viability of individual variation is not bad, but stronger, if this mutation can be genetic, more viable groups will be formed, which is what we call evolution. Earth from the most primitive early life, the development of all living things contends vitality is the result of evolution; we humans are also a product of evolution.

Biological evolution also has the reverse situation, that is, a negative variation as a universal biological phenomenon, but this can also be genetic variation. This situation can also be referred to as degradation, degradation will lead to the species become increasingly unsuited to the environment, more and more not survive and, after a period of struggle and will be extinct.

Are in the evolution of any species, and in accordance with the views of the theory of evolution, all living beings on Earth are from the same ancestors, as a result of this primitive life in a different environment, different variations have occurred, so differentiation of animals, plants and fungi. These continue the evolution of life, strong who survive, the weak are eliminated from this rule has been referred to as "natural selection, survival of the fittest," or as the law of natural selection, and this is one of the most important evolutions of the law.

II. Species extinction causes

The world's biological species recorded about two million kinds of animals, 270,000 kinds of plants, 35,000 kinds of microbes, together with the record has not the species, scientists estimated that the total number of biological species should be as high as 1-30000000 kinds . However, the existence of the planet has been much more than this species, the basic can be sure, today the number of species on Earth has existed for less than 1% of number of species, while the other 99% of the species are already extinct.

The last of the mass extinction of life on Earth are the result of leading the forces of nature. Life on Earth has existed for about 38 million years, during which despite a number of large extinction, however, life has never

been interruption. From the Cambrian explosion, the earth experienced five extinctions, the largest mass extinction occurred in 2.5 billion years ago at the turn of the Permian and Triassic, when 90% of the aquatic organisms and 75% of terrestrial plants and animals disappear, and this also shows that the extinction of the incident there are a number of species preserved.

This shows that the earliest life on Earth has its own, has never been the deterioration of their environment to enable all of the organisms can not survive here, even in the bio-mass extinction period, only part of the biological environment can not meet at that time.

Through the study of species extinction, the extinction of species can be drawn a total of three Su-a result of escape:

1. Environmental factors

Environmental factors are the change as a result of the natural environment led to the extinction of species. Earth's environment by a variety of factors, such as volcanoes, asteroid or comet impact, magnetic disappeared, the cyclical nature of global climate cooling or heating, etc., which are the Earth's environment can change a lot. Changes in the environment, a number of biological itself will be able to adapt to the new environment, although there are biological and can not adapt to the new environment, but the slow process of change in the environment, make a corresponding adjustment to the environment evolution, it will be able to survive the biological . If the above two conditions are not met, this is bound to the extinction of species.

Environmental factors are the most important factor in the extinction of species, especially large-scale mass extinction of the role of environmental factors become more prominent. In the five mass extinction of biological research found that every time the main reason for mass extinction is to environmental factors, that is, changes in the natural environment.

Great changes in the natural environment led to the extinction of the cluster is a very good understanding of its causes, because in general the biological body are exposed in their natural environment is very sensitive to the natural environment, the natural environment will inevitably lead to a large part of the biological changes can not adapt to the new environment, especially in the case of drastic changes in the environment of its more prominent role in extinction.

2. Species competition

Competitive factors in a broad sense are a kind of species to environmental factors. Species refers to the strong competition is eliminated species caused the extinction of vulnerable species, or because of the interdependence of the reduction and extinction of species caused the extinction. Competition of species, including interspecies'' competition, leads to the extinction.

Species, the role of competition generally conventional extinction, will not lead to the extinction of the cluster.

3. Species degradation

Broadly speaking, the same species, the degradation of factors may be brought into the environmental factors. Species refers to the external environment degradation has not changed, or is likely to be affected no change in

the survival of species, but some species, there were not conducive to continue to survive in this environment variation, and this adverse variance is genetic, and the overall variation in this species.

When a species is a degradation of an irreversible trend, this species will be increasingly difficult to survive, to have been eliminated and, ultimately, the disappearance of extinction. Species degradation generally works on the conventional extinction.

III. Threat of laws of evolution

Role in the evolution of the law of any species, including human beings, all species are relentless in the evolution of the law, and there appeared to eliminate the phenomenon of living, it does herald the end of mankind would be the role of the forces of nature to the extinction of this?

1. Environmental threat

General biological approach to adapt to the environment is very simple, completely exposed as a result of the state, if the global climate cooling, the evolution of animals is certainly the direction of thickening skin, long hair; if global warming, animals must be the direction of the evolution of skin thinner, shorter hair, if this kind of evolution can not be completed will be extinct.

At the same time, food chain relationships between species, will inevitably lead to the extinction of a species as a group of food reduction and extinction of species. Because the animals the way of food processing chewing mouth only, it is impossible not to eat some species can become fit for human consumption, although the evolution of the digestive system can also, but to complete this evolution only a small number of species; the way to access to food animals is a simple gift of nature, it is impossible to carry out domestic and domesticated food, some changes in the nature of animal food to obtain the impact will be great.

Humans have fundamentally from the situation of animals, because human intelligence has reached a commanding height of an absolute, and any species have mastered the science and technology to catch up, thus, human beings and the natural environment is taken to deal with an entirely different approach.

Human being has been completely exposed from the body must rely on the natural environment to adapt to changes in the situation, which as early as anthropology in a number of years before the animal will put on his body, the use of fire to heating has been on fundamental changes. Today, however, very optimistic about all the more, we can adapt to changes in outdoor temperature clothes changes in the interior is through the stove, heating and air-conditioning temperature, at very high or very low temperature environment can be designed special work clothing and facilities.

And from an environmental impact on human food, the rough calculation, we have the advantage of any animal is second to none. As early as millions of years ago human beings will be able to use rock smash the nuts feeding, and then learn how to use fire, so that food can not be eaten raw can be made fit for human consumption, Ten thousand years ago mankind learned how to domesticated poultry, domesticated plants , which has far more than other animals.

However, not all this long ago compared with today's human beings, we can through the greenhouse in the winter cold to eat a variety of fresh vegetables, fruits and grain; we can change the genes of crops, cultivate a cold, anti-heat, drought, flood, disease and pest resistant crops; As the consumption of a variety of animals in captivity, but also for those of poultry, livestock, enjoy the summer shade and winter warmth.

At the same time, we can see that the human species are miscellaneous food, plants and animals can become its food, raw and cooked food can be accepted, which makes human beings in response to changes in the natural environment, in the face of their own food all the more able grasp.

In that case, whether the environmental change on human not a decisive influence on it? Of course not, in fact, the preceding sections of this chapter discussed most of them are related to human impact on the environment, the threat of the universe, the solar system, as well as the threat of a threat to Earth, all of mankind is the threat posed by the basic threat to the environment . However, can lead to the extinction of the human environment of the overall threat, must be sufficient to lead to global ecological suffered a complete collapse of the power, and far from the ordinary sense of the environment. In that case, a recent human use today are genuinely unable to grasp the means to escape the threat of extinction, that is, the sun turned into a red giant, however, it is a very distant threat, the threat today is considered too early.

2. Species competitive threat

The dinosaur had a strong long-term rule of the earth, we may as well make the assumption that, if today, on Earth at the same time the survival of humans and dinosaurs, dinosaurs rule is the rule of human or human dinosaurs do? I think the answer is very clear, must be the wisdom of a huge dinosaur of human rule, and not the opposite.

A person who single-handedly not encountered in the field of dinosaurs, even if the wolf encounter, I am afraid it will be shredded. However, groups of human beings, especially the high-tech means to master a high degree of human wisdom, its power is unparalleled peak.

Can be sure, today's competition for survival of any species in the road to extinction of the population can reach more than 60 million human beings, from the evolutionary point of view, the human will never allow any other species in the evolution of the development of enough the overall survival of their own as a threat to the point where enough. This is a threat to plants and animals is to say the least, because of animals and plants on Earth are in control of human being, perhaps of their development and changes of small and even larger changes in human development and are difficult to detect, but the development and changes can be as large as the larger threat to the survival of mankind when mankind will be found in the human by virtue of its powerful forces are fully capable of controlling its development.

The threat of biological evolution is the most difficult control of micro-organisms, this is because very small micro-organisms, and the number of extremely large, a new virus and bacteria can surprise attack humans, and the most frightening is that the vicious infectious diseases.

However, today we have a means of diagnosis and treatment of infectious disease prevention and control, the total can be controlled within a limited scope, and not to suffer too much for human being.

Such kind of ability is based on facts. The late Middle Ages in Europe the Black Death had killed half of the urban population, but Milan is from the catastrophe, as bishop of Milan command, where there is a disease, whether dead, live, are surrounded by walls of its housing, and are buried. After the science developed after the effective way to know is that isolation is to prevent epidemics of the most effective means.

In 2003, in China, the explosion of a highly contagious, high mortality rates of malignant and infectious diseases SARS, developed as a result of traffic, only 2 months to spread the disease to more than 30 countries on five continents, it is On the mere mention SARS. However, countries should adopt effective means of inspection and quarantine in and there is no effective drug therapy, the only five-six months to curb the spread of SARS, the final transmission of less than 10,000, fewer than 1,000 deaths. If this should be in 100 years ago, the harm will be thousands of times more than today.

In fact, we have antibiotics and other drugs to treat a large extent, is already available in a wide range of new diseases. At that time, the treatment of SARS is completely taken stop-gap solution, although not as much special effects, but also to the emergency. It can be sure that we have mastered the above-mentioned modern means of micro-organisms through the evolution of the disease though will surely bring to the human death and harm, but not the extinction of mankind.

3. Species degradation threat

Degradation of the species here refers to the degradation of human beings, that is, human will can not be resisted because of their genetic variability, degenerate into something totally inappropriate to continue the species to survive, resulting in the extinction of this? For example, can not continue to multiply; become more and more stupid or intelligent, and finally evolved into the same general animal species, and therefore extinction; or else there are not conducive to continue to survive the degradation and so on.

In accordance with the principles of the theory of evolution, the use of the organ will be more evolution of the more developed is the only major human brain to adapt to the environment with the biological, because of the large-scale use of the brain, human intelligence is bound to become increasingly developed, the conclusion from the theory are totally dependent on support. And in terms of creativity, in fact, human creativity has been the increasing trend in the past; still do not see any signs of stagnation and retrogression. As long as there will be no major intellectual degradation, human beings on the earth is perfectly placed to continue to dominate, and they are better than other species to adapt to various environments.

In fact, even in case of a human in the next day, the degradation of intelligence there, and even the many important aspects of physical degradation are not terrible, as far as today we have the basis of gene technology as recycling, as long as a little development, can save his own human being. Recycling so-called gene technology is the use of enzymes to DNA on the gene cut, paste and repair, which in accordance with the wishes of their own to create their own request in line with the biological. At present, this technology has been widely used, scientists can cotton into red, yellow, brown; can produce seedless watermelon and seedless grapes; can grow frog eyes 6; can not long rat tail. All these are the results of genetic reconstruction.

As long as the wish, the human is entirely possible in the near future on their own genes for recycling. In particular, we have seen today, the Human Genome Project is to human DNA of the three billion base pairs and the composition of more than 30,000 genes to conduct a comprehensive study, sorting, and preliminary results have been achieved in the near the future will be all of human gene structure, as well as representatives of

human life entirely to find out the password. So, on this basis as long as a little effort, it can be, human beings easily recycled.

We are very pleased to see that only human beings have a variety of today's technology, it has been successfully saved many endangered species. For example: British scientists launched a frozen storage of the DNA of endangered species programs; Chinese scientists on the endangered yew plants to cultivate a successful and succeeded in protecting the endangered species of giant pandas and so on.

One thing is clear, any variation of species, will not jump at the same time, the overall mutation, if one day find their own human being is really the beginning of the degradation of genes, are fully capable of relying on already mastered the technology of biological engineering, the successful to prevent the spread of this negative variation, but also the completion of the work plan. Therefore, the species can not lead to degradation factors of the extinction of mankind.

To sum up, till the evolution of sun into the red giant in 5 billion years, no extinction factors exist in nature. Thus, seeing from the opportunity given by nature, human being has an extremely long future, which can also be concluded from the survival history of other species. For example: 6500 years ago, dinosaurs existed sixteen million years on the earth due to its strong power. Human being is much more powerful than dinosaurs. Intelligent human being doesn’t need any more to confront nakedly natural climate changes, or struggle single-handedly with beast. The access to food is no longer simply relies on nature, but mainly on creative actions. It’s evident that human being is more powerful and stronger than dinosaurs to possess more survival abilities. In addition, human uses only 50 thousands years for evolution, at beginning of its history if comparing with dinosaurs. So even with simple logic reasoning, we can conclude that the human being will have millions and millions years of future.

Chapter IV: Generally Recognized Internal Threats

The internal threats to humans correspond with the external threats, and they are equally ominous. Humans are intelligent, but also emotional; we are able to discern many complex things, but we can also be influenced by our emotions and take irrational actions.

We have always been aware of the self-threat humans pose to themselves, but this knowledge is far from profound or objective. The self-threat (or internal threat) we discuss here is only the portion that has been generally recognized. We will analyze these factors in order to find the internal elements that truly pose a major threat to the overall survival of mankind.

SECTION I: THE KILLING OF EACH OTHER

While mankind's intelligence has far surpassed that of other animals, we have retained many negative animal features, especially intra-specific competition—that is, the killing of each other. Furthermore, humans kill their own species with much more cruelty and on a far larger scale than any other type of animal. War and criminal homicide are the two main forms of such internal killing.

I.War

Any person with common sense knows that war has existed since the birth of mankind. There has been war as long as there has been human society. When we flip open history books, we find the pages filled with war. Not only are there written records, but most oral legends center around war as well. It is a basic historical fact that human society goes hand in hand with war.

According to the theory of evolution, intra-specific competition exists in all species. In animal species, the losing party will usually run away, and the victor usually allows this escape. Although deaths do occur, they are not the norm. Human struggles are very different. Since humans possess far superior intelligence, they will often take intra-specific competition to the extreme. Humans can predict the future and take preemptive attacks; humans can organize large forces to combat stronger enemies; humans can manufacture weapons of mass destruction; and humans have far more complex psychology that can breed generations of hatred and fury.

Of course, humans first evolved from ordinary animals, so the earliest human struggles were not much different from those of animals. War was a product of human society's scientific and technological development.

The history of human warfare can be summed up in three points. First, the scale of war is increasing exponentially; second, the brutality of war escalates continuously; and third, the weapons of war have become more and more advanced.

As there have only been five thousand years of recorded history, the earliest scale of war can only be estimated through experience. A tribe has a few thousand people at most, meaning that only a few hundred or one thousand people would participate in war. For a war of such scale, one or two hundred casualties would be an astronomical number.

The formation of countries changed everything. The first city-states had an average population of thirty-five thousand people, making it possible to mobilize thousands or tens of thousands of war personnel. Therefore, tens of thousands of people would be engaged in battle, allowing the casualties to rise into the thousands. A casualty of one or two hundred people would signify a mild battle.

War was an important factor in the expansion of countries. The purpose of war was not only to obtain wealth, but also to conquer territories. Rulers hoped to expand the country through such conquests, since the larger a country was, the greater its strength and resources would be, thus ensuring it a better chance at victory in the next war. As countries continued to expand, the scale and brutality of war expanded accordingly.

Two thousand years ago, during Qin Shi Huang's war to unify China, over one million troops were deployed, and hundreds of thousands died as a result. Alexander the Great eastward conquest deployed hundreds of thousands of troops as well.

As war is a matter of life and death, any country will first apply its most advanced technology in warfare. The earliest wars took place during the Neolithic Age when people used stone knives, stone axes, and flint arrows in war. In the Bronze Age, the rarity of bronze meant that it was seldom used in agriculture or production, but mostly used to produce bronze swords, spears, and armor. Similarly, chariots were used in war shortly after the invention of the wheel.

Iron smelting technology was relatively advanced during Qin Shi Huang and Alexander's time, and most of the weapons and armor of that time were developed in iron. Siege ladders, battering chariots, and war chariots were used in large quantities.

During the cold weapons era, wars not only grew in scale, but also in brutality; weapons grew more advanced as well. Battles also increased in length: a feature unique to the cold weapons era.

During this era, weapons were less efficient and had limited impact. The fastest transportation at the time were horses, who had limited speed and needed time to rest and graze, thus limiting the speed of advancement. As wars continued to expand in scale, low efficiency of weapons coupled with low transportation speeds caused large-scale wars to draw on for a lengthy period of time. The Crusades lasted nearly two hundred years, and the Mongolian conquest continued for ninety years.

The characteristics of war changed as gunpowder became widely used in warfare. This change happened gradually. The use of firearms, stone cannons, lead guns, and iron cannons was not the decisive factor. It was the use of explosives that changed the situation. Explosive bombs could cause mass casualties, and they did not distinguish between soldiers and civilians. Therefore, weaponry efficiency was greatly improved and civilian casualties started to rise. Wars became more brutal as they shortened in duration. After entering the gunpowder era, even large-scale wars did not last more than twenty or thirty years, and wars that lasted centuries disappeared completely.

After the Industrial Revolution, a number of scientific and technological innovations emerged and were applied to warfare. As war became increasingly short and more brutal, it also further escalated in scale. As humans entered the twentieth century, technical conditions matured enough to facilitate world war. The telegraph was invented in 1844, and the telephone was invented in 1876, forming the basis for communication in world warfare. The car was invented in 1886, and aircrafts were invented in 1903, facilitating conditions for world war transportation. Once these conditions became available, it was in the nature of mankind to launch a world war.

In July 1914, the First World War broke out, involving over thirty-three countries from all over the globe and 1.5 billion people—two-thirds of the global population at that time. Over seventy-three million troops were mobilized; among them, twenty-nine million were directly engaged in warfare, ten million were killed, and twenty million were injured. A war of such large scale and such mass-casualty would have taken more than one hundred years to fight during the cold weapons era, but World War I only lasted four years.

Only twenty-one years after World War I, a larger and more brutal world war broke out. World War II lasted six years and involved more than 1.7 billion people from over sixty countries; 110 million troops were mobilized, more than 55 million people were killed, and even more were injured. Both the scale and casualties of this war set unprecedented records. In addition to the widespread use of guns, cannons, tanks, warships, submarines, and aircraft carriers, chemical weapons, biological weapons, and nuclear weapons were also deployed. A large number of civilians were killed in this war, and the aftermath was devastating.

Though no outbreak of world war has happened since World War II, localized war has never ceased. The number of deaths caused by war has surpassed twenty million—more than twice the casualties of both world wars combined.

The continued development of science and technology has successfully sent humans to space, and the study of nuclear weapons is no longer in the development stage. The US is no longer the only country with nuclear capabilities. According to simple calculations, the world's nuclear warheads could destroy humanity many times over. As genetic engineering continues to develop, genetic bio-weapons that are even more lethal than nuclear weapons have appeared. The variety of precision guided missiles, nuclear submarines, strategic bombs, and other forms of technology could send these destructive weapons to every corner of the earth.

Based on current warfare technology, if a third world war broke out, it would be larger in scale, even more brutal, and shorter still in duration. Moreover, this war would almost certainly spread to space. If nuclear weapons, genetic bio-weapons, and intelligent robots were all used, the number of casualties could reach billions in a matter of months.

II.Criminal Homicide and Terrorism

Criminal homicide can be divided into a variety of categories, such as robbery homicide, revenge killing, and so on. Terrorism is an extreme form of homicide; it is not only large in scale, but it also has great effect on the social order at large; thus, terrorism will be a main topic of discussion within criminal homicide. When it comes to acts of terrorism, it is often difficult to distinguish between war and crime (particularly organized terrorist attacks from terrorist groups). We are classifying it as criminal homicide for easier discussion.

Terrorism has existed since the dawn of human society; assassination attempts were earlier forms of terrorism. However, terrorism has expanded far beyond just assassinations, bombings, hostage-takings, and armed attacks. Terrorist attacks that caused large-scale casualties were rare in ancient times. To be precise, large-scale terrorist attacks have only started to occur frequently in recent decades, especially in the past twenty years. Terrorism has become one of the most serious threats to global security.

Analysis of terrorist attacks shows that contemporary terrorism has the following four main characteristics:

1. It seeks the largest casualty and most dramatic sensation. Terrorist attacks often aim to kill as many civilians as possible in order to maximize public reaction.

2. It uses the most extreme means. Terrorists usually employ the most brutal and lethal tactics within their abilities.

3. It disregards personal life and death. Many terrorists will choose suicide attacks as their method, showing no consideration for their own life.

4. It goes against human morals. Terrorists often target the weakest parts of society—those who most people of conscience would seek to protect.

In the infamous “9/11” attack, nineteen Islamic religious extremists hijacked four commercial planes in the United States. Two planes crashed into the New York World Trade Center buildings, one crashed into the Pentagon US Department of Defense building, and the other planned to crash into the White House. The attack caused a total of three thousand deaths and disappearances.

In the 1995 Tokyo subway sarin attack, cult organization Aum Shinrikyo released sarin gas into a subway during peak hours, causing twelve deaths and over 5,500 injuries.

In September 2004, thirty Chechen terrorists abducted over 1,200 hostages from a school in Beslan city; 330 were killed, and over 500 were injured, most of which were children.

On July 22, 2011, a Norwegian man detonated a car bomb near the executive government office in Norway before opening fire on a youth league summer camp in Utøya. This lone wolf terrorist killed seventy-seven people all by himself.

In recent years, ISIS has been organizing terrorist attacks all over the world. The November 13, 2015, Paris attack alone resulted in 132 deaths and 300 injuries. Terrorist attacks mainly stem from economic and political purposes, or they are derived from hatred and psychopathy; the latter three are the most brutal and large-scale.

The hatred that leads to terrorist attacks can be hatred for individuals, or for society; it can be ethnic hatred, religious hatred, or national hatred. Terrorist attacks caused by hatred are sometimes related to the psychopathy of the terrorists, such as psychopathic disdain of society. Such attacks are usually perpetuated by individuals who stab people in the streets, hijack planes, or blow up buildings. They are usually isolated events that cause great harm but are relatively minor compared to other more organized terrorist attacks.

In spite of this, if such perpetrators obtained specialized weaponry, these isolated attacks would become much more destructive. These terrorists are usually desperate individuals who want revenge on the entire society,

even at the cost of their own lives. Speaking in the extreme, if such people could master a means of destroying the world, they would not hesitate to do so.

National, religious, and ethnic hatred are often aligned with political purposes. Before Israel was founded, the Jewish people initiated frequent terrorist attacks in the Palestinian territories, both out of ethnic and religious hatred and in the hopes of eliciting support by alerting the international community. Palestinians initiated frequent suicide bombings and armed attacks in the Israeli-occupied areas out of a combination of national hatred, ethnic hatred, religious hatred, and political purposes.

Analysis of attacks like this show that terrorist attacks motivated by national, ethnic, and religious hatred as well as political agenda are usually large in scale, meticulously organized, and highly destructive. The aforementioned 9/11 attack, Beslan school siege, and ISIS attacks all belong within this category.

In recent years, large-scale terrorist attacks have intensified exponentially. On one hand, this is due to the increased conflicts between nations, ethnic groups, and religious organizations in our society. On the other hand, such attacks are facilitated by the rapid development of science and technology since the Industrial Revolution.

Before the Industrial Revolution, the means of killing were primitive and inefficient. The Industrial Revolution sped up the development of science and technology, and the inventions produced were always first applied as means of massacre. A variety of new weapons emerged, and all sorts of new technology provided abundant conditions for terrorist attacks.

Newly invented bio-toxins, chemical gas, and potent explosives all increase the destructive effect of terrorist attacks. One of the most popular terrorism targets, aircrafts, are also used widely as a result of scientific and technological developments.

As long as nations, ethnic groups, and religions exist, organized, large-scale terrorist attacks cannot be eradicated. As science and technology continue to develop, terrorists will be better equipped with increasingly terrifying weapons of mass destruction; however, it is likely that the most dangerous terrorist attacks of the future will not be the ones motivated by political purposes or national, ethnic, and religious hatred. After all, such attacks are limited to clear specific enemies—they are not aimed against their own countries, ethnic groups, or religions.

The increased development of science and technology will eventually cause high-tech weapons of mass destruction to fall into the hands of ordinary people. At that time, those terrorists motivated by a personal hatred of society will become the most devastating and dangerous type of murderer. Terrorists like this are undiscriminating in their hatred. They target all of society and don’t think to spare even their own parents, wives, or children. When people like this can easily obtain and use weapons of mass destruction, the attacks will be unimaginably terrifying.

SECTION II: ENVIRONMENTAL ISSUES

Environmental issues concern both the present and the future. They decide whether our future generations can live long, safe, and happy lives on Earth. These issues arose mainly due to industrialization and then were further amplified, encompassing more aspects of life. In this section, we will elaborate on some of the most important aspects of environmental concerns.

I. Global Warming

Global warming is one of the most discussed environmental issues today. Research shows that though global temperature has been relatively stable for thousands of years, Earth's temperature has been rising steadily at an unprecedented rate for the past century. A series of observations has highlighted the gravity of the situation and garnered widespread concern from all over the world.

The Antarctic continental shelf is narrowing and huge icebergs are cracking off at an alarming rate. From January 10 to January 12 in 2017, one of the largest icebergs in history broke off from the Antarctic Larsen C ice shelf. The iceberg composed 12 percent of the Larsen C ice shelf and weighed about one trillion tons with an area size of over 5,800 square kilometers, making it roughly the size of Shanghai. Additionally, glaciers at river sources are retreating rapidly as well. In the past decade, the Yangtze River and Yellow River have experienced several thousands of kilometers of glacial retreat at their river source in the Qinghai-Tibet Plateau; the Alps, long famous for their beautiful snow views, have also started to experience snow shortage on their ski slopes.

Greenland and the Arctic Ocean ice shelf are also undergoing significant retreats. It is estimated that summer Arctic sea ice has reduced 72 percent from 1980 to 2016, reaching an all-time low in October and November of 2016. Scientists estimate that the summer Arctic Ocean may be completely ice-free within the decade; if so, it will be the first time the Arctic is ice-free in one hundred thousand years.

The permafrost in the United States' Alaska and Canada's Wood Buffalo National Park has also begun to melt due to global warming, and similar things are happening in Russian Siberia as well. In March of 2017, scientists discovered more than seven thousand dirt mounds in the Siberian Arctic area, each the size of a small hill and containing explosive methane inside. A number of spray mouths had also formed.

Global warming threatens humans on a multifaceted level. Take glaciers, for example; the influx of water from melting will lead to years of floods followed by serious shortages in water. People who live nearby and depend on major rivers will be seriously affected.

Glacier melting will also lead to sea levels rising. According to several scientists, since coastal areas have denser populations, one billion people will be threatened globally with every one-meter rise in sea level. Some countries located in low terrains may be swallowed completely. 40 percent of the Maldives and 60 percent of Tulu Lu have already been submerged by water. If the sea level does rise two or three meters by the end of this century as predicted, the inhabitants of these countries will face terrible consequences.

Global warming has also brought about natural disasters like we have never encountered in the past. The El Niño and La Niña phenomena are two such cases. Global warming also has a direct impact on human bodies. High temperature and humidity levels are ideal for the proliferation of parasites, bacteria, and viruses, which can lead to a significant increase in infectious diseases. Historically, most plagues and epidemics have happened during hot summer seasons; tropical rainforest countries are especially susceptible to such attacks.

The temperature of the earth is mainly determined by the sun. Sunlight is filtered to Earth at a rate suitable for human habitation, due to the existence of the Earth's atmosphere. The sun's temperature remains on the surface of Earth through a complex process, which we can simplify this way: solar radiation is partly absorbed by Earth and partly reflected back into space. When Earth re-radiates solar energy, it changes the nature of that energy and produces infrared radiation. This is the origin of heat. If all this infrared remained on Earth, Earth's surface would be very hot; if all of it were reflected back into space, the Earth would freeze. A precise portion of infrared radiation must be retained to maintain a suitable temperature on Earth's surface; this process is accomplished by the atmosphere.

The main components of Earth's atmosphere are nitrogen and oxygen. They are transparent and allow light to pass through freely; however, some other elements of the atmosphere are not transparent, like carbon dioxide, methane, ozone, and water vapor. They not only absorb infrared radiation but also produce it, causing Earth's atmosphere and surface temperatures to rise. These gases are known as greenhouse gases. Even though they comprise only a small portion of the atmosphere, they have an extremely important role. Today, the average temperature of Earth is 15 °C; without greenhouse gases it would drop to -20 °C. If Earth's atmosphere was covered in green- house gases, the surface temperature would rise to 200 °C. If either of the two above situations occurred, global ecology would be completely destroyed and humans would no longer be able to survive on Earth.

Global warming happens for many reasons. Natural causes take place gradually and usually reach some sort of balance in the end; however, in the two hundred years since the Industrial Revolution, humans have burned large quantities of oil, coal, natural gas, charcoal, and firewood. This, coupled with forest and grassland fires, has caused massive carbon dioxide discharge. Plant absorption of carbon dioxide can no longer keep up with its production, causing the carbon dioxide concentration in the air to rise steadily and resulting in the greenhouse effect. The greenhouse effect exacerbates constantly. Global warming leads to permafrost thawing, which releases methane into the atmosphere. Methane produces an even stronger greenhouse effect than carbon dioxide.

After repeated appeals from scientists, the reduction of greenhouse gas emissions to prevent global warming was finally put on the world's agenda. The United Nations held a number of meetings to urge countries to reduce their greenhouse emissions, but they met great resistance. Industrial countries in particular held negative attitudes towards these negotiations. After decades of effort and global consensus, the Paris Agreement (or Paris Climate Accord) was finally adopted on December 12, 2015, at the Paris Climate Change Conference. It was signed on April 22, 2016, in New York. This day was marked as "World Earth Day" and celebrated as an extraordinary moment in human history. Over one hundred countries gathered at the United Nations to witness the signing of the Paris Agreement.

Only one year later, on June 1, 2017, newly appointed US President Donald Trump announced a withdrawal from the Paris Agreement in deference to his "Americans First" national strategy that prioritized the US economy and employment issues. The United States' withdrawal from the Paris Agreement caused a global

uproar, and many major countries voiced their objections. Unfortunately, nothing much can be done, since the United States is the world's only superpower.

II. Acid Rain and Air Pollution

In the 1850s, people discovered sulfuric acid in rainwater at the industrial city of Manchester. Scientists called this type of rain "acid rain." The term became widely used and over time expanded to acid mist, acid snow, and acid ice. Normally, rain is slightly acidic due to the presence of carbon dioxide in the air; it is a normal phenomenon, but acid rain has an acidity ten times that of normal rain.

Acid rain is caused by air pollution and is a product of industrialization. Since the Industrial Revolution, the burning of fossil fuels for industrial production has caused sulfur dioxide and nitrogen oxides to be released into the air. Once these particles encounter rain, they are converted into sulfuric acid and nitric acid, which then form acid rain.

Acid rain is harmful in many ways. In recent decades, many lakes in Western Europe and North America have suffered major fish shortages due to the acidity of the lake water. Forests in Central Europe have withered away due to acid rain erosion, and large stretches of grassland in Russia have disappeared for similar reasons. Acid rain filters the nutrients from the soil and reduces the fertility of the land; it wreaks havoc on crops as well.

Once the concentration of acid rain reaches a certain level, metals like lead, aluminum, and cadmium become soluble in acid, so acid rain will affect human health after entering the human body through drinking water. Acid rain can also enter the human body through other means, such as the ingestion of fish from acid rain-affected lakes, which could cause poisoning. Acid rain can also corrode building materials like metal, paint, and marble.

Air pollution not only threatens humans through the production of acid rain, but the emission of smoke and dust into the air is also harmful.

Acid rain and air pollution once plagued early industrialized countries; however, as regions like China, India, and Southeast Asia focus more on their own industrialization processes, acid rain has shown a trend of moving from developed countries to developing countries.

In 2013, "haze" might have been the keyword of the year for China. In January of that year, haze enveloped over thirty Chinese provinces four times; the capital, Beijing, only experienced five days without haze. Haze is a visual barrier caused when the dust, sulfuric acid, nitric acid, and other particles in the air form an aerosol system. Once it encounters rain, it forms acid rain.

Air pollution has a serious effect on people's health and quality of life, and the social outcry against this issue has become especially strong. In 2017, "defending blue skies" was written into Premier Li Keqiang's government work report.

Acid rain and air pollution have attracted more and more attention globally. Many countries list them as the object of major scientific research projects. The United Nations has also held a number of meetings to discuss these issues, and many useful declarations and conventions have been produced. In 1979, the United Nations

Economic Commission for Europe signed the Convention on Long-Range Transboundary Air Pollution (CLRTAP), which went into effect in 1983. This was the first regional convention concerning air pollution, and it contributed greatly to the control of acid rain. However, as long as industrial production keeps up its expansion for the foreseeable future, control measures will only be able to alleviate harm—they cannot fundamentally solve the problem of acid rain and air pollution.

III. The Loss of Biodiversity

There are about ten to thirty million biological species living on Earth today; only about 2.3 million of them have been identified, and most have not yet been classified. All these species together constitute Earth's ecological chain; their existence is the basis of Earth's ecosystem.

In accordance with the laws of biological evolution, existing species will die out and be replaced by new species in a constant cycle. This is a normal process, but the interference of mankind has changed everything. By destroying the natural evolutionary process of creatures, we are causing biodiversity to decline.

The importance of biodiversity is first manifested in ecological value. All earthly creatures relate to one another. Plants absorb moisture, carbon dioxide and inorganic salts from the soil, and air to produce photosynthesis under light. But they also alter the physical properties of soil and release oxygen and moisture into the atmosphere to achieve a balance. An adult needs 0.75 kilograms of oxygen every day, so human beings could not survive without the oxygen production of plants.

Plants are the food source for herbivores, and herbivores are the food source for carnivores. Bacterial microorganisms decompose animal bodies and plant leaves to produce simple inorganic matter like carbon dioxide and water, which are in turn absorbed by plants as nutrients. Ecology is balanced in such a cycle; each creature has its own unique irreplaceable role within the cycle. The extinction or major decline of creatures will destroy this ecological balance; studies show that the extinction of one species usually endangers the survival of twenty other species.

Biodiversity is also important in terms of economic and medicinal value. Human existence is heavily reliant upon biodiversity. Our everyday necessities cannot be maintained without the variety of creatures, and many of our drugs are derived from animals and plants. Human beings would not survive without biodiversity.

Life originated in the ocean, but after organisms came to land they expanded to account for more than 99 percent of the global biomass. Biodiversity on land is mainly focused in tropical rainforests; nearly 90 percent of the world's species lives in tropical forests, and 75 percent of the world's birds have breeding grounds there. Therefore, the protection of forests—especially tropical forests—is essential to the conservation of biodiversity. Unfortunately, today's global forest coverage is reducing at a rate of fifty thousand square kilometers per year, 80 percent of which are tropical forests. As these forests are destroyed, many unique biological species are declining rapidly as well.

Humans are also destroying biodiversity with the extensive use of pesticides, air pollution, water pollution, and other industrial waste pollution. When pesticides kill insects, they also kill birds and frogs. DDT has even been found in Antarctic penguin bodies.

Once rivers are polluted by nitrogen, phosphorus, and other man-made organic materials, algae will breed in large numbers, consuming the water's oxygen and producing toxic, gas-like hydrogen sulfide. Aquatic organisms and fish cannot survive in such conditions; this is what we call the eutrophication of water. When water eutrophication occurs in the ocean, it is called a red tide. In the past three decades, red tides have appeared all over the world and caused coastal fish, shrimp, and shellfish to die in large numbers; coastal fishermen have suffered heavy losses as a result.

Human hunting of wild animals is also a major cause of biodiversity loss. Although African governments have expended great efforts to curb the smuggling and trafficking of ivory and rhino horns, the killing of wild elephants and rhinoceros has not stopped. The smuggling of rare wild animals has always been an important component of international crime. In China, Vietnam, Cambodia, and other East Asian and Southeast Asian countries, wild animals are regarded as delicacies.

Profound reflection reveals that since the Cambrian explosion 530 million years ago, the five major extinctions on Earth have all been caused by natural forces like glacial arrivals, asteroid impacts, global warming or cooling, and frequent volcanic activities. The last major extinction occurred 65 million years ago; shortly after that, biological species recovered to peak numbers. Today, species are declining at a rapid rate once again, and all signs indicate that the earth is experiencing a sixth extinction period—one caused completely by human activities.

Scientific research shows that human intervention has caused a rapid increase in the rate of species loss, especially since the Industrial Revolution. The Global Environment Outlook (NOC) published by the United Nations Environment Program (UNEP) in October 2007 pointed out that the current rate of species extinction is one hundred times that of fossil records; many scientists believe the number should be one thousand times. The Industrial Revolution might have brought great material wealth to mankind, but it devastated the earth's species. In July 2006, scientists from thirteen countries published a joint article in Nature magazine. The article mentioned that 12 percent of Earth's birds, 23 percent of Earth's mammals, 25 percent of pine and cypress plants, and 32 percent of amphibians were facing extinction. That number would increase by 15 percent to 37 percent over the next fifty years.

The largest animal population humans have seen to date is the passenger pigeon. They were migrant social animals that lived in the Americas and once reached five billion in number. The largest group of passenger pigeons had over two hundred million members and could obscure the sky during flight.

This spectacular species became extinct due to human activities in a matter of decades.

In the 1870s, immigrants flocked to the west of North America, cutting down the forest habitats of passenger pigeons and hunting them for food and sport. After three or four decades, only a few dozen passenger pigeons were left in zoos. People finally began to repent and started carefully feeding the passenger pigeons in captivity. Sadly, passenger pigeons were migratory animals that were accustomed to living in large groups, so they could not survive in small numbers inside cages.

The last passenger pigeon was called Martha; she died on September 1, 1914, at 1:00 p.m. People recorded the exact time of her death and built a tomb for her. It read: "Human greed and selfishness has led to the extinction of passenger pigeons." This was the first time humans truly mourned the extinction of a species.

Mankind's history has been one of killings and extinctions. Humans set foot on New Zealand eight hundred years ago; today, most of their larger animal species and 60 percent of their bird species have gone extinct.

Humans arrived in Australia fifty thousand years ago; since that time, over 90 percent of the larger animal species living there have disappeared. Huge animals like the Diprotodon that had survived here for 1.5 million years and withstood ten glacial periods could not survive the catastrophe brought by humans.

We are biologically classified as Homo sapiens; many other members of the Homo genus were eliminated after encountering us. Homo Erectus, Homo heidelbergensis, and Neanderthals had all survived for hundreds of thousands—or even millions—of years on Earth. Why did they all become extinct after the arrival of Homo sapiens? So-called climate change and species devolution were not sufficient reasons; the main cause was massacre by Homo sapiens.

Fortunately, biodiversity has received wide attention from the international community today, and multiple meetings have been held by the United Nations. In particular, the Convention on Biological Diversity (CBD) was signed in 1992 at the UN Conference on Environment and Development. It was followed by a series of conferences to implement specific objectives of the convention.

The Convention on Biological Diversity is a legally binding global agreement; it marked the first time a consensus was reached concerning the importance of biodiversity to mankind. However, different countries have differing levels of awareness and value attached to the convention, and implementation efforts vary widely. In addition, many fundamental issues like forest, grassland, and wetland destruction, as well as pollution issues, have not been solved; thus, the trend of biodiversity loss has not changed so far, and the foreseeable future is not promising.

IV. Destruction of the Ozone Layer

From Earth's evolution history, we know that early Earth creatures survived in the ocean until four hundred million years ago when the formation of the ozone layer allowed life to move onto land. The ozone layer is crucial in protecting Earth's creatures from harmful rays.

Oxygen generally consists of two oxygen atoms, while ozone is composed of three oxygen atoms and exists in the stratosphere ten to fifty kilometers about Earth's surface. The ozone layer formed from the surplus oxygen produced by marine microbes in a three-billion-year period; therefore, the original process of life formation on Earth was a lengthy process.

Earth's atmosphere is 99 percent composed of oxygen and nitrogen; the other 1 percent contains many other types of gas, and carbon dioxide is one of them. Ozone is only a very small percentage of the atmosphere.

Many of the rays in the universe—especially those radiated from the sun—are detrimental to life. If humans flew in space without protective devices, they would be killed by these rays very quickly. These rays are blocked before reaching Earth's surface due to the existence of ozone in the stratosphere. Ultraviolet light is one of the most lethal rays, and 99 percent of it is absorbed by the ozone layer. Human survival is inseparable from the protection of the ozone layer.

Sadly, the ozone layer, which took over three billion years to form, has been seriously damaged by mankind in the past few decades. In 1956 and 1957, scientists discovered ozone holes above the Antarctic; these holes expanded rapidly and have covered the entire Antarctic continent, even extending to the ocean around the Antarctic Circle. In 1987, ozone holes were also discovered atop the Arctic and showed signs of expanding as well.

The main reason for ozone reduction has been identified: Freon. Freon was invented by the DuPont company in the 1930s. It does not burn and is non-toxic, very stable, and non-corrosive on metals. This not only makes it ideal for the refrigeration industry, but also for foaming agents, sprays, cleaning agents, disinfectants, and other products. However, it is the stability of Freon that makes it so detrimental to ozone.

As a refrigerant, Freon can be divided into two categories: chlorofluorocarbons and hydro chlorofluorocarbons. Chlorofluorocarbons are very stable and will not decompose as they float upwards to the stratosphere. Once chlorofluorocarbons encounter unfiltered ultraviolet light in the stratosphere, the chlorines inside will decompose into atoms and combine with less stable ozone to produce chlorine oxides and oxygen; thus, the ozone layer becomes damaged.

This is only the beginning of ozone destruction. Chlorine oxide and free oxygen atoms will also combine to form chlorine and oxygen, which repeats the process, resulting in a vicious cycle. Once the process starts, a chain reaction is initiated. It is estimated that one chlorine atom can destroy one hundred thousand ozone molecules, and its destructive force can last a hundred years.

For this reason, the United Nations Environment program held a special meeting in Montreal, Canada, in 1987. At this meeting, the Montreal Protocol on Substances that Deplete the Ozone Layer (Montreal Protocol) was signed. It limited the production and use of chlorofluorocarbons and seven other types of products that cause damage to the ozone layer. A number of amendments have been made to this protocol, and most of the world's major countries have participated in the treaty. The Montreal Protocol is considered to be the most successful collaboration of humans on environ- mental issues.

In fact, the control of ozone-depleting substances like chlorofluorocarbons has received rather desirable results. Even so, it is estimated that ozone holes will not be completely repaired until the late twenty-first century, even in the most ideal circumstances.

SECTION III: RESOURCE PROBLEMS

I. The Depletion of Non-Renewable Resources

Many of Earth's resources are renewable. Fresh water flows into the sea and evaporates into rainwater; animals feed on plants and inhale oxygen, while plants absorb carbon dioxide and release oxygen. Nature maintains a cycle. Both water and plants can be regenerated. Animals can be regenerated as well, and so can wind energy, solar energy, hydroelectric energy, and other energies. Even though humans overuse these renewable resources, they can be restored after a period of recuperation. Even animals and plants can recover as long as we do not kill them all. That is the characteristic of renewable resources.

Not all resources function like this. Substances like coal, oil, natural gas, and other fossil fuels—as well as natural materials like gold, silver, copper, iron, tin, graphite, mica, and crystal—cannot be regenerated. These resources are called non-renewable resources.

The fear of resource depletion has existed for a long time, but it used to be limited to individual or regional resources. The general sense of resource crisis has only hit human society in the past century.

Since the Industrial Revolution, skyrocketing industrial production and the rapid rise of cities has increased the demand on non-renewable resources. Iron and steel smelting requires the burning of wood or charcoal; the increased demand of steel after the Industrial Revolution caused many forests to be cut down until the growth of forests could no longer keep up with the demand of the steel industry. At that time, the mountains near British steel plants were razed bald, prompting the British government to encourage coal usage instead. As the Industrial Revolution spread from Britain to the Americas and other parts of Europe, coal consumption increased dramatically.

The large-scale use of oil came much later. Crude oil was first successfully drilled in Pennsylvania in 1859, but it was not viewed as a serious resource. At that time, oil was mainly used to extract kerosene for lighting, and gasoline was discarded as a useless by-product. With the widespread use of petrol engines, diesel engines, and cars in the early twentieth century, oil underwent substantial change. Gasoline and diesel became the main products of oil. At the same time, the demand for oil increased dramatically, until it replaced coal as the most important fuel.

The crisis of oil resource depletion arose shortly after the widespread use of oil. Exploration of oil reserves indicated that it could not meet the rapid growth in oil demand. In the 1920s, it was estimated that the world's total oil reserve would only last for another twenty years; however, it was later discovered that the actual oil reserve was more than people estimated, and oil did not dry up in the 1940s.

After World War II, large oil fields were discovered in the Middle East— enough to meet the needs of human use for a limited time. That time was estimated to be around thirty years. Although thirty years have passed without the exhaustion of oil, oil depletion and energy depletion in general have become major concerns around the world. Oil is particularly indispensable to our lives, and it has become a necessary guarantee for a country's economic growth.

As the global economy continues to expand and the global population continues to grow, the rate of non-renewable resource consumption has also increased. The rational and controlled use of non-renewable resources has become an important global agenda. Resources like oil have become strategic materials to major powers and are regarded as a matter of national security.

How long can non-renewable resources last us? Many organizations around the world have dedicated in-depth and detailed study into this issue, and a variety of different research results have been produced. After consolidating these results, a relatively optimistic estimate assesses non-renewable resources in the following way:

Earth's oil can only meet usage demands for less than 130 more years. Verified reserves of other resources show that: coal will last 210 years; natural gas 170 years; iron 154 years; aluminum 215 years; copper 41 years; lead 40 years; mercury 36 years; nickel 44 years; tin 30 years; phosphate 90 years; and salt 300 years.

The above assessment data is certainly not 100 percent accurate, but it reflects an accurate conclusion—if the current trend of development is maintained, the earth's non-renewable resources will face general depletion in less than two hundred years.

My personal view is a bit more optimistic. Many metal and non-metallic materials can be recycled, and as recycling technology improves, the use of resources will undoubtedly be extended. On the subject of oil, natural asphalt can also be used for oil refining as an alternative to crude oil. In recent years, the United States has made major technological breakthroughs in oil shale mining and refining, and China has made breakthroughs in combustible ice mining as well. These will all extend the years of the use of oil. In addition, there are lots of untapped resources on Earth that may exceed our imagination. That is why I believe resources will not be exhausted for a long time, especially metal and non-metallic materials.

Nevertheless, even the most optimistic view is not long-term. Oil, coal, natural gas, and other fuels cannot last more than a few centuries (and most people think this is too optimistic of an estimate), according to current consumption rates. What will our descendants do in a few hundred years?

Coal was formed when ancient plants were buried underground and underwent ground pressure and geothermal reaction; oil and natural gas were generated similarly when ancient marine life was buried under the sea. The formation of all these resources took millions of years, and Earth's current resource reserve was built up over a period of billions of years. It has been mere centuries since we have mastered the use and mining of such resources, yet we have depleted them considerably. How will we account to future generations?

People have only come up with two answers: First, scientific progress could come up with alternative products, like nuclear energy and synthetic materials. Second, new technology could enable mining and resource extraction from extraterrestrial planets.

It is argued here that the two above "solutions" are just excuses for the unregulated exploitation of non-renewable resources. Firstly, many resources cannot be completely replaced; some of their traits may be replaced by alter- natives, but it is impossible to replicate them entirely. Secondly, before technology reaches an ideal level, the use of alternative products will increase cost exponentially. Thirdly, it may take a long time before the mining of extraterrestrial resources is advanced enough to provide for humans. If we blindly used Earth's resources based on a mere fantasy and deplete all of Earth's reserves before accomplishing extraterrestrial extraction, human civilization will suffer critically. Moreover, if Earth's resources can be depleted by industrialized humans in a matter of centuries, how long would the surrounding planets last us? The solar system only has four solid rock planets. Earth is the largest, and Mercury and Venus' surface temperatures make landing impossible. The only planet that we could use is Mars, and it is only one-tenth the size of Earth. Our satellite moon is even smaller.

II. Water Scarcity

Water is the source of life; life cannot exist without water. The earth has a huge amount of water—about 1.4 billion cubic kilometers. However, only 2.7 percent of this massive water reserve is fresh water—only about thirty- eight million cubic kilometers. Moreover, most of Earth's fresh water exists in the form of ice in glaciers, which account for over 77.44 percent of all fresh water. The Antarctic continent and the Arctic Greenland

account for 97 percent of all glacier water; the Antarctic continental ice shelf has an average thickness of 1,700 meters, with the thickest parts reaching 4,000 meters. After glacier storage, groundwater accounts for 22.01 percent of freshwater; the remaining 0.55 percent of fresh water exists in rivers, lakes, the soil, and the atmosphere.

Rivers, freshwater lakes, shallow groundwater, soil water, and small amounts of brackish water are the relatively easy to use water resources that humans depend on, but they are a very small portion of the global water reserve. Total global water evaporation is equal to total global precipitation, measuring about 500,000 cubic kilometers per year; 430,000 cubic kilo- meters of ocean water is evaporated every year, 390,000 cubic kilometers precipitates back into the ocean, and 40,000 cubic kilometers is transported to land. Land water evaporation is about 70,000 cubic kilometers, while the precipitation is 110,000 cubic kilometers. The net precipitation amount is provided by ocean water evaporation.

The annual net precipitation of land water is allocated as follows: 28,000 cubic kilometers flow into the ocean, 5,000 cubic kilometers flow through no man's land, and only 7,000 cubic kilometers can be used by humans. Due to the large number of human water conservancy constructions in the past decades, reservoirs control 2,000 cubic kilometers of water, making the yearly amount of water available for human use 9,000 cubic kilometers. This figure is 0.00064 percent of the total water reserve of Earth, and 0.024 percent of global fresh water reserve.

According to the data, in a moderately developed country, every person requires 350–450 cubic meters of water annually; thus, it is estimated that Earth's fresh water can support twenty to twenty-five billion people; however, that is not the case. The seven billion people on Earth today constantly feel the pressure of water shortage. According to data released by the United Nations Education, Scientific and Cultural Organization (UNESCO), nearly nine hundred million people worldwide cannot obtain safe drinking water, and the deterioration of water quality has seriously affected the ecological environment and human health. More than 2.5 billion people live in environments without basic sanitation facilities. In addition, an estimated 1.5 million children under the age of five lose their lives annually due to unsafe drinking water, unsafe sanitation, or unsafe personal hygiene. The number of people who die from water pollution every year surpasses the total number of people who die from violent conflicts.

The reasons for water shortage can be summarized into the following aspects:

First, the distribution of water resources is uneven. Some countries and regions have abundant water resources, while others are severely lacking. For example, the per capita annual freshwater of Canada is 92,000 cubic meters. The Republic of Congo has a population of less than three million and an abundance of rivers—including the large-flow Congo River—allowing its inhabitants to enjoy an annual per capita freshwater amount of 291,000 cubic meters—first in the world. In contrast, the United Arab Emirates in the Middle East only has 71 cubic meters of per capita freshwater annually, making it the world's most water-scarce country. Kuwait has basically no fresh water resource of its own.

The distribution of freshwater in the same country is often uneven as well. The annual per capita freshwater of China is 2,200 cubic meters, making it a rather water-poor country to begin with. However, the annual per capita freshwater of the northern regions is only 25 percent of the southern region. The capital, Beijing, has less than 300 cubic meters of freshwater per capita annually; that's less than some of the dry countries in the Middle East and by the Sahara Desert.

Second, water pollution renders some water unusable. Water pollution can be caused by industrial pollution, agricultural pollution, and domestic pollution. Among them, industrial pollution is the most serious. At present, more than four hundred billion tons of sewage is discharged annually, resulting in more than five thousand billion tons of water being polluted.

Third, water resources are often managed poorly and unreasonably. The low utilization rate and poor management of agricultural irrigation have the most serious impact on water resources. Agricultural irrigation water accounts for about 85 percent of total global water use.

Fourth, the increase in global population is the leading cause of water scarcity. Since the Industrial Revolution, improvements in medical technology have increased population growth at an unprecedented rate. In the past century, the demand for food in China and India alone has increased five times, thoroughly overwhelming world water resources.

Fifth, global warming has led to changes in the global ecology. Global warming causes the world climate to be generally arid while melting glaciers; the El Niño and La Nina phenomena further reduce usable freshwater. Not only do seasonal rainstorms and floods not produce usable water, but they also lead to many disasters.

Water shortage has become a worldwide problem, and the UN has held many meetings to discuss the problem. On January 18, 1993, the 47th session of the UN General Assembly denoted March 22 as “World Water Day.” The United Nations and many countries around the world have taken numerous measures to solve the water scarcity problem, but no remarkable results have been achieved yet.

III. Desertification

Desertification refers to land degradation in arid, semi-arid, and sub-humid arid areas due to climate variability and human activities, as well as other causes. Desertification renders land unsuitable for the growth of crops and other plants. Land desertification, salinization, and other land degradation phenomena are all part of desertification.

Desertification is a historic issue. We can see from satellite photos and spacecraft overviews of Earth that the ancient breeding grounds of human civilization are the most serious desertification areas. The Mesopotamian plain between the Euphrates and the Tigris rivers, the Nile River in Egypt, the Ganges River in India, and the Yellow River Basin in China are all such areas. However, desertification has never been as serious as it is today. According to the United Nations Environment Programme, 35 percent of global land area has been, and is expected to be, affected by desertification. Desertification has claimed 55 percent of the land in Africa, 19 percent in North America and Central America, 10 percent in South America, 34 percent in Asia, 75 percent in Australia, and 2 percent in Europe. Desertification is a serious threat to the survival and development of mankind, especially in developing countries.

There are three main causes of desertification: First is wind erosion, or wind-driven soil erosion phenomenon. The second is water erosion, which happens when water drives soil erosion. In these circumstances, loose soil caused by reduced vegetation will be washed away by rain, thinning the soil layer and decreasing the fertility of

the land. The third is soil salinization, which occurs when moisture evaporates in arid and semi-arid low-lying areas where groundwater is shallow, causing salt to precipitate until the soil achieves salinization.

Earth's soil is formed over years of precipitation from rock weathering and organic matter. One centimeter of cultivatable land requires twenty to one thousand years of precipitation; however, about twenty-five billion tons of soil is washed away by rain every year, and the desertification and salinization of land upsets the balance between soil "production" and human and natural destruction of land; thus, global land acreage is increasingly unable to meet the needs of human survival.

The reasons for desertification can be traced to humanity's unrestrained demand on the earth. Many forests were cut down to make room for agricultural farming, resulting in serious soil erosion. At present, about thirteen million hectares of forest are transferred to other uses or disappear from natural causes every year—larger than the land area of Ireland.

The destruction of grasslands is just as bad, mainly in two respects. First, many grasslands are converted to farmland; second, many existing grasslands are overgrazed and degraded. Analysis shows that the destruction of forests and grasslands and the extent of desertification in developing countries are much higher than those of developed countries.

Land salinization is most serious in India, China, Pakistan, and Bangladesh. As a result of the surge in population and the reduction in per capita land area, these countries have had to over-cultivate existing land and use fertilizers and pesticides on land that is not suitable for cultivation. After two or three decades of this type of farming, the land inevitably reaches salinization and can no longer be used.

The rise in global warming due to greenhouse gas emissions is also an important cause of desertification. The rise of global temperatures will lead to two kinds of climate phenomena: global drought, and seasonal rains and floods. Global droughts increase the salinization and wind erosion of land, while seasonal rains and floods increase soil erosion. Both of these climate phenomena lead to land desertification.

Desertification is directly endangering more than 110 countries from all over the world. The threat it poses to the survival and happiness of mankind can be imagined. The seriousness of this problem has aroused the concern and attention of the international community. The United Nations has exerted considerable effort in this regard and has formed the United Nations Convention to Combat Desertification.

Regrettably, the issue of desertification has not been mitigated by the efforts of the international community so far. Since the signing of the United Nations Convention to Combat Desertification, the involved parties have been convening every two years to facilitate the implementation of the Convention. However, the Convention encounters much difficulty, especially in regard to the fulfillment of funds and establishment of corresponding mechanisms. In fact, global efforts on combating desertification have not made substantial progress to this day.

SECTION IV: ISSUES OF POPULATION AND POVERTY

I. Population Explosion

On October 31, 2011, the United Nations Population Fund (UNFPA) identified a baby born in Kaliningrad as the seven billionth member of the world. This came only twelve years after the "six billion population day" in 1999. It took only twelve years for the world's population to increase one billion, making the annual population increase close to one hundred million. This growth rate is known as population "explosion." It not only makes the world uneasy, but also highlights the grimness of the situation.

According to historians and archaeologists, human population in the Paleolithic era was only 120,000 to 150,000; in the agricultural period, the world's population was about five to ten million. This growth process took two million years. After entering the Industrial Age in the middle of the eighteenth century, the world's population was close to eight hundred million. It took ten thousand years to progress from the agricultural period to the industrial age. Today the world's population is more than seven billion, and it has only been two hundred years since the Industrial Age. This growth trend informs us that technological revolution is the root of population explosion. Logical inference would assume that the wealth brought on by techno- logical revolution would facilitate more food and better conditions for raising children; therefore, wealthier people would have more children, and higher- income countries would experience faster population growth. The truth is just the opposite.

The emergence of antibiotics and chemical drugs as well as the overall improvement of health care greatly reduced infant and child mortality rates. Average life expectancy increased generally as well. However, beliefs in reproduction and contraception did not update accordingly.

The development of agricultural technology has further secured food production; this coupled with the development of world charity has greatly reduced large-scale famines. And with more than seven billion people as the population base, even millions of hunger-related deaths could not balance the annual population growth. As a result, the population is growing faster and faster, enough to be called a population explosion.

Studies of world population growth trends reveal two obvious pat- terns—namely, the poorer the country, the higher the population growth rate; and the less educated the women, the more children they give birth to. This is because the concept of birth control was not accepted by the poorer countries and individuals when the Industrial Revolution spread the fruits of medical technology developments to the rest of the world.

As long as advanced medical technology was adopted by a society, it would produce appropriate treatments for disease, reduce death, and prolong life expectancy. Contraception was a personal matter. Individuals had to accept this value and believe in it to produce the corresponding effect.

Throughout human existence, people have faced threats from the plague, disease, hunger, and war. Families had to reproduce in large numbers to ensure the survival of the bloodline. This idea became deeply rooted in the minds of people and even became a strong component of some national and cultural identities. Once people were better educated, they developed a better understanding of medical technology and their own role in contraception. For poorer, less educated people, such ideas were much harder to comprehend.

In addition, the poorer a person is, the less life security they will have. Poorer countries often have inadequate social security systems. When a person produces children in these circumstances, they will often take into account old age and loss of the ability to work. If the society cannot guarantee their basic life needs, they would need to rely on children for support. This is a driving force for having more children. In wealthier countries where social security systems are sound, and among wealthier people who feel secure in their future, this is not a concern.

Together, the many troubles that arise in poorer countries are the third important factor that lead to higher reproduction rates. In cases of turmoil, war, and political instability, the government has no time to educate the public and propagate contraception. Some of the poorer inhabitants cannot even afford food, let alone contraceptives.

The population problem attracted the attention of the international community early on. As the world's resources are limited, population growth has the potential to overwhelm Earth in a serious way. The United Nations has held a number of meetings concerning population growth, and some countries have adopted measures to control population growth and received some results. But the world's population is still growing at a rapid pace. In 2002, the United Nations published the "Global Population Profile: 2002," predicting that by 2050, the world's population would reach a maximum of 9.3 billion. However, this number is on the rise. In June 2017, the United Nations Economic and Social Council issued a forecast stating that by 2050, the world's population would reach 9.8 billion and continue to grow to reach 11.2 billion by 2100.

II. Poverty and Wealth Inequality

Population explosion and poverty are two issues that are related yet independent of each other. According to a report by the Boston Consulting Group, 45 percent of the world's wealth is in the hands of 1 percent of the global population. This ratio has been rising continuously. The report further predicted that by 2021, the proportion would reach 51 percent, meaning that 1 percent of the world's people would possess more than half of the world's wealth.

According to the Global Wealth Report 2016, issued by the Credit Suisse Research Institute in November 2016, the majority of the population— which accounts for 73 percent of the total population—has only 2.4 percent of the world's wealth, while the rich—who account for 10 percent of world's population—possess 86 percent of the world's wealth.

The rich keep getting richer, and the poor keep getting poorer. At the same time, the income gap is widening both within and between countries. At the beginning of the nineteenth century, the ratio of the real per capita income of the rich compared to the poor in the world was 3:1. By the beginning of the twentieth century, this ratio had been extended to 10:1, and by the beginning of this century, the ratio had exceeded 60:1.

According to a statistics report by the International Monetary Fund, the richest country in 2016—Luxembourg—had a per capita GDP of 10,399 US dollars, while the country that ranked 191st —South Sudan—only had a per capita GDP of 233 US dollars. While the richest people in the world are rolling in money, annual global death caused by hunger and malnutrition has reached five million.

Why did the Industrial Revolution and technological progress fail to bring wealth to the majority and bring poverty and disappointment instead? There are numerous reasons, but only two main direct causes: first, there exists an inequality in world trade. The main export products of poorer countries are primarily basic products derived from agricultural goods and non-renewable resources, as well as labor-intensive manufactured goods. These products have very low added value to begin with, and the rules of world trade are in the hands of developed countries. Trade barriers and high tariffs make it increasingly difficult for these countries to export, allocating them lower and lower shares in the international market.

The second cause lies in the lack of scientific and technological creativity. This is far more crucial than the former. Since the Industrial Revolution, today's poorer countries have lagged behind due to colonialism, war, civil strife, and a variety of other reasons. In the face of the ongoing third Industrial Revolution, these countries simply cannot compete with developed countries in terms of material, human, financial, and other resources. The gap in scientific and technological creativity is particularly huge. This inevitably leads to a further distance between poorer countries and developed countries.

Wealth inequality (or the wealth gap) is not only reflected between countries but is also displayed prominently within countries. On the one hand, this is due to the rapid development of science and the adoption of information technology. Production has become more dependent on mechanical equipment and scientific instruments rather than direct human labor. That is why developed countries have consistently high unemployment rates even as their economic development skyrockets. On the other hand, the rapid development of science and technology will inevitably allow the shareholders and senior managers who have emerged victorious among competitors to gain more wealth, while the majority of people get poorer in comparison. The unemployed people in countries with good social security systems can rely on social relief to maintain survival, but in countries with less adequate social security, the unemployed will descend into extreme poverty.

The UN has been committed to the eradication of poverty in the world, and poverty has been cited as the first of the three main themes of social development identified by the United Nations. The UN has also devoted itself to the Millennium Development Goal for poverty eradication. In September 2000, the United Nations Millennium Summit set "reduction of half the world's extreme poverty and hunger by 2015" as one of the UN Millennium Development Goals (MDG). According to the United Nations MDG Report 2015, the number of people living in extreme poverty has dropped from 1.9 billion in 1990 to 836 million in 2015, basically achieving the goal of halving the world's extreme poverty.

Before the 2015 MDG expired, the UN Development Summit held in September passed a new series of goals for 2015–2030. The new agenda includes seventeen sustainable development goals and 169 specific development goals. The first of the sustainable development goals is to "end poverty in all its forms everywhere." The eradication of extreme poverty in all the world's population by 2030 is the first component of that goal.

SECTION V: THE CONFUSION BROUGHT BY SCIENCE AND TECHNOLOGY

As science and technology brings material comforts to humans, they also bring a series of problems. Some scientific and technological achievements have even seriously endangered the survival and happiness of humanity and come into direct conflict with human values. This has led to some confusion and reflection regarding the validity of such achievements; however, this confusion and reflection is generally limited to specific scientific and technological achievements.

I. Nuclear Weapons

Nuclear weapons were developed based on Einstein's theory of mass-energy equivalence. According to this theory, one gram of matter releases energy equivalent to twenty thousand tons of explosive TNT. In order to prevent Hitler's Germany from developing the atomic bomb first, US President Roosevelt accepted a proposal by a group of scientists led by Einstein and formally approved the Manhattan Project to conduct atomic bomb research. In the summer of 1945, the first three atomic bombs were created. At this point, as the Second World War was nearing its end, one of these three bombs was used in a test explosion, while the other two were dropped on Japan's Hiroshima and Nagasaki.

These two atomic bombs not only completely destroyed the buildings of Hiroshima and Nagasaki, but they also impacted numerous people. At the time, Hiroshima had a population of 280,000 people. The bomb killed 71,000 people and injured 68,000 on the spot. Later, radiation and other related conditions caused the deaths of 120,000 people. Of the 200,000 people in Nagasaki, 35,000 died immediately, and 60,000 were injured directly in the explosion. Later, 74,000 died and 75,000 were injured due to radiation and other sequelae.

Nuclear weapons mainly cause damage to people through optical radiation, shock waves, nuclear radiation, radioactive contamination, and electromagnetic pulse. Apart from electromagnetic pulse, the four other kinds of injury can all cause death. At the moment of nuclear explosion, the temperature at the center of the blast can reach tens of millions of degrees. The light from the explosion is more dazzling than a thousand suns, and the scorching temperature can change steel into gas. The blistering explosion storms will also destroy all life in their path; the huge shock waves sometimes even destroy buildings and take lives dozens or even hundreds of kilometers away.

Nuclear radiation is a more silent killer. It exists in the form of harmful rays released from nuclear explosions. In serious cases, these rays can cause immediate death; in mild cases, they can cause headaches, dizziness, nausea, hair loss, mild bleeding, and gastrointestinal disorders. Nuclear radiation often has latent effects and can lead to cancer, leukemia, and other diseases.

Radioactive contamination is caused by the large amount of radioactive dust generated by nuclear explosions. These dust particles contain a variety of harmful rays that affect the human body in a way similar to nuclear radiation; however, these effects will last much longer. After the atomic bomb explosions in Hiroshima and

Nagasaki, many people were injured through nuclear radiation and radioactive contamination when searching for and treating others, as they didn't understand the dangers posed.

Atomic bombs use nuclear fission to release energy. Many countries have also developed hydrogen bombs that rely on the release of hydrogen nuclear fusion energy. Hydrogen fusion has the advantage of being highly efficient—hydrogen releases four times more energy than its equivalent in uranium, and it is not affected by critical mass, making the explosive force of the hydrogen bomb theoretically infinite.

After successful hydrogen bomb tests, countries developed neutron bombs to deal with specific targets, like tanks. They produced electromagnetic bombs to target communication facilities, and shock bombs aimed towards hard targets. Together, these constitute the third generation of nuclear weapons.

Today, not only do the five permanent UN members have nuclear weapons, but many other countries, including India, Pakistan, Israel, and North Korea, have them as well. Many more countries possess nuclear capabilities. It is estimated that nearly seventy countries in the world have the technical and economic ability to develop nuclear weapons.

Looking back now, the first three atomic bombs were mere playthings. Their power was only equivalent to ten thousand to twenty thousand tons of TNT—utterly primitive compared to the nuclear arsenal of today. The largest nuclear experiment to date was a hydrogen bomb exploded by the Soviet Union on October 30, 1961; its power rivaled fifty-six million tons of TNT.

By 1986, the United States, the Soviet Union, the United Kingdom, France, and China possessed a total of seventy thousand warheads altogether—equivalent to fifteen billion tons of TNT. After the Cold War, nuclear warheads were destroyed in large numbers, but fifteen thousand still exist in the world.

What would happen if the world broke out in nuclear war? Scientists and scholars from all over the world have reached a common understanding. Since the power of the explosion is concentrated and not evenly distributed, nuclear war would not destroy all of mankind. After the initial massive nuclear explosions, billions of people would die, and the smoke and debris from the explosion would blanket the sky, blocking the sun. In a period of weeks or even months, sun exposure would be greatly reduced and global temperature would drop sharply to 10 or 20 below zero (Celsius). This is what we commonly refer to as a "nuclear winter."

A nuclear winter would seriously affect Earth's ecosystem and greatly impact crop production. Many people would die from the extreme cold and food shortages. The loss of energy, electricity, running water, medical care, communication, and other essential life systems would drive survivors into panic mode, and as time went by, they would become increasingly numb and desperate. Nuclear radiation and radioactive dust would destroy the internal organization of human bodies; hospitals would be overcrowded with patients, and most would die in extreme pain. Nuclear explosions would also damage the ozone layer so that people would face strong radiation from ultraviolet rays after the darkness lifted. Many new illnesses would hit.

Human civilization would be devastated, and it would be extremely difficult to recover. Hunger, cold, disease, and fear would rob humanity of basic dignity, and literature, art, and music would become meaningless. Humanity would revert back to primitive foraging days, and it would take many years for the social order to re-form. Some have even asserted that nuclear war would destroy human civilization, leaving no chance for recovery.

II. Biochemical Weapons

Biochemical weapons are a collective reference to biological weapons and chemical weapons. Many experts believe that biochemical weapons have the potential to be even more lethal than nuclear weapons. Nuclear weapons destroy life and structures in earth-shattering explosions, but biochemical weapons snuff out life silently and without a trace. Due to the lower manufacturing cost of biochemical weapons, they are sometimes called the "atomic bombs of poor countries." This also makes them a popular attack tactic for terrorist organizations.

1. Chemical Weapons

Chemical weapons were first use by the German army in World War I. The Allied Powers retaliated in kind, and both sides repeatedly used poison gas thereafter.

Chemical weapons have a variety of different agents and can be divided into three main categories. The first category is the neurotoxic agent. Such agents can penetrate the human body and quickly combine with human choline enzymes to destroy their vitality. They can inhibit nerve impulses and produce muscle spasms, thus paralyzing the respiratory muscles, leading to death of humans and animals. Organic phosphorus poison—known as the king of modern poison—is one such chemical agent.

The second category is the corrosive agent. This kind of poison can seriously damage human muscle tissue cells and will cause blisters and corrosion to appear at any point of contact. Victims will suffer painful blisters, corrosion, eye photophobia, and respiratory mucosal necrosis. Mustard gas (double chlorine ethyl sulfide) belongs to this category.

The third category is asphyxiating and hemolytic agents. These agents mainly destroy human and animal respiratory systems. They prevent cells from absorbing oxygen in the blood and damage the lungs, causing death through pulmonary edema. Phosgene and diphosgene are some such examples.

Chemical weapons are not only brutal weapons of warfare, but they are also perpetrators of terrible aftermaths. After World War II, over 120,000 tons of chemical weapons were discarded offshore in the UK, polluting over 100,000 square kilometers of ocean and land. Every year, gas bombs left by the Japanese army are discovered in China. Two million gas bombs have been discovered in the northeast region alone, and many people have been poisoned as a result.

2. Biological Weapons

Compared to chemical weapons, biological weapons are even more harmful, lethal, and brutal.

The core of biological weapons lies in biological agents, which refers to a variety of infectious disease pathogens. They are able to self-propagate and transmit disease.

The starting number of biological agents is usually very small, but pathogens are able to propagate rapidly, and silently invade the human body. Once an outbreak occurs, the damage is vast and long-term. Soldiers and civilians will suffer alike from this weapon that is basically an artificial plague.

Bio-agents are usually composed of microorganism too small to see. At present, we know of about 160 kinds of pathogenic microorganisms. They can be divided into six categories in terms of harm and transmission: bacteria, viruses, chlamydia, rickettsia, toxins, and fungi.

The descriptions of bio-weapons are often nerve-wracking. Under certain conditions, one gram of infected Q rickettsia chicken embryo tissue can disperse into micron-sized aerosol particles and infect more than one million people; twelve eggs infected by Chlamydomonas can infect all of humanity; inhalation of one single Q rickettsia particle can cause Q fever infection.

Biological weapons also cause lasting damage. Cholera bacteria can survive for more than forty days in appropriate conditions; yellow fever virus can be stored for three to four months in appropriate conditions, and biological toxins can cause disease as long as they survive.

Due to the lethal nature of biological weapons, their use is generally condemned, and no large-scale bio-weapons have been released to date. One of the more notable uses of bio-weapons was by the Japanese army in China during World War II when the Unit 731, formed by the Kwantung army surgeon, General Shirō Ishii, tested bio-weapons on human subjects. During a period of twelve years, the Japanese army repeatedly used biological weapons, causing the death of 270,000 Chinese people. The transmissible nature of bio-weapons affected the Japanese as well; it is estimated that one thousand Japanese soldiers died as a result of their own bio-weapons.

The development of genetic technology means that the lethality of modern transgenic toxins has far exceeded that of traditional biological toxins. Genetically modified toxins use transgenic technology to re-combine the DNA molecules of different biological toxins to form new bio-toxins. Transgenic technology can combine all the attributes of existing bio-toxins as well as manufacture new forms of bio-attack, and it can also produce super bio-toxins that target specific organs, races, or sexes.

The lethality of genetically modified toxins is a whole new concept com- pared to that of traditional toxins, and it can be thousands or even millions of times more lethal. Some have calculated that a few hundred tons of genetically modified toxins could replace the hundreds of thousands of tons of bio-toxins existent today.

III. Cyber Crime

At midnight on June 20, 1980, the computer at the Command Center of the US Strategic Air Command in Omaha suddenly issued signals indicating an attack from Soviet nuclear submarines and intercontinental missiles. At the same time, corresponding large screens started showing the measures to be taken in reaction to a nuclear attack. Duty officers immediately pressed the alarm button and issued an alarm to all air force strategic forces using code words.

The president of the United States was notified of the situation at once, and Air Force One was prepared for takeoff. Five minutes later, 153 strategic missile launch units entered their positions, 1,054 intercontinental ballistic missiles carrying nuclear weapons readied for launch, 100 B-52 strategic bombers prepared for takeoff, and the E-4 Airborne Command Post was airborne.

Soldiers waited nervously for counterattack commands, only to receive word that alarms were being lifted and that the whole situation had been caused by a computer virus. A massive cyber joke had been played on the top decision-makers of the United States.

When the 1991 Gulf War was in full swing, a Dutch teenager broke into the US Department of Defense's computer system and released many of the Ministry of Defense's confidential materials. He also modified the contents of the computer system extensively.

In the internet age, information leaks occur frequently. In 2016, more than ten million people had their personal information leaked more than fifteen times. According to incomplete 2016 statistics, over 6.5 billion pieces of personal information were leaked in China's black market alone, meaning every Chinese person experienced an average of five leaks.

The world's computers suffer virus attacks every day, and hundreds of thousands—or even millions—of computers are paralyzed by viruses at a time. Cyber criminals also extort through computer viruses. The largest cyber extortion attack to date occurred in May 2017. At the time, a ransomware entitled "WannaCry" attacked computers from at least 150 countries and encrypted all their files. Ransoms ranged from hundreds to thousands of dollars in bitcoin, and files were deleted in a week if the ransom was not paid. The hacker also threatened to raise the ransom with time.

Only a few months passed before a new computer ransomware attacked computers in over sixty countries. Local enterprises, ports, airports, and urban management suffered greatly. Some organizations estimate that these two computer viruses alone caused more than $8 billion in losses.

The internet has only been developing for forty years, yet cybercrime has become a widespread phenomenon. Cyber criminals set up financial frauds, marriage traps, and gambling traps. They also set up logic bombs that cause entire system programs to fail; the possibilities for disaster are endless. States, organizations, businesses, schools, research institutions, and even families have to devote much effort to prevent these attacks. Judicial institutions, police, and security agencies have devoted increasing amounts of human, financial, and material resources to dealing with cybercrime. Many agencies have even set up special anti-cybercrime departments. Cybercrime and computer pranks are causing serious harm to human society; they have become a major public hazard.

Chapter V: Humanity and Threats

The elaboration on the possible external threats to the humanity and generally-recognized self-threat have been made in the former two chapters. These menaces will be summarized in this Chapter to get a clear understanding of the most crucial factors that threatening the survival of mankind as a whole, and grope for a solution.

External threats is an objective reality which has nothing to do with human nature and social system; no matter if we want it, and how we choose to face it, we have to inevitably bear the whole shoot. However, the self-threat of human race is totally different, and by large extent determined by the human nature, the related social system, the history and other various aspects. Exactly for this reason, we are forced to study the very nature of humanity and main social systems before summarizing the threats ahead, only by which can we really identified all factors that possibly endanger the existence of the mankind in a profound way.

Section I: Re-recognition of the External Threats

After the foregoing analysis, we might as well look at the external threat from a new higher state, even focus on road to the future of mankind from outside the threat to obtain a conclusion that benefit our future choice.

1. Accepting the Accidental Events

We know nobody can escape from some external threats like diseases, the death will sooner or later fall to every one, and ultimately we must composedly accept it. But the individual death has no influence on the survival of the whole; on the contrary, the mankind will not be able to survive long if there is no death. Because the unrestricted increase of population will exterminate the mankind by the lack of clothes and food sooner or later.

The acceptance of individual death of mankind is a common sense, even though the most of us don’t want or fear for death, we have to take the fact that we will naturally die for aging and ailing. Even so, all men with normal state of mind can not accept the drop scene of overall extinction, and as human beings, we regard the value of human survival as a whole much higher than everything else.

We are clear by the former explanation, during all kinds of external threats of which many touch on the overall existence of mankind, such as black hole swallowing, the menace of micro-black hole and antimatter planet, star collision, independent planetary collision, outbreak of close supernova, end of universe, evolution of the Sun into Red giant, collision of big asteroids, alien intrusion and degradation of the human genome, etc. Any of the above falling on us would absolutely unquestionably lead to the doom of mankind, then, will the doomsday finally come?

There are now only two external forces imperiled the overall existence of mankind being identified as sooner or later coming to us and beyond the capacity of current science and technology: one is the end of universe, the other is the evolution of the Sun into Red Giant.

According to the known theoretical cosmology, the end of universe will finally come true, but it is a matter of thousands of billions years away from us in the future.

At present, we are beyond the capacity of addressing the end of universe that exterminates the mankind, although many futurists came up with all kinds of solutions to cope with it, they are all stop at the stage of scientific fancy which lack of reliable scientific basis in practice, therefore, it is better to leave the questions to our children of wisdom.

And the evolution of the Sun into Red giant is happening late enough in 5 billion years. Although we are not able to prevent such threats today or even in the long expectable future, we can pray for the future mankind maybe in 5 million years of much higher intelligence, through long development and evolution, the mankind will be capable of keeping distance from the Red giant and building a new home in other safe spaces of the universe.

In fact, before the Sun evolving into the Red Giant, there are still two menaces that probably endanger the survival of mankind as a whole but we have been ready to defend against, one is Earth-colliding big asteroids, the other is the degradation of the human genome. But we have been ready to defend against them. An asteroid that can destroy the humanity by striking the Earth is likely to occur in hundreds of millions years, then, with more progress of our capacity in astronomical observation, we can precisely forecast such catastrophe, and little progress of our technology of nuclear, space and missile delivery, we can intercept or defuse the collision of celestial bodies through other ways.

There is great chance for the devolution of human genome as well. After long-term propagation, the devolution of the crucial organs of human body is unavoidable, which will lead to the unsustainable survive of the mankind. This will perhaps happen in millions or tens of millions of years, or even hundreds of millions of years, but sooner or later fall on us. However, the current genetic engineering technique is ready for the prospect of reconstruction of human genome, which can vitalize the human species that has survived for hundreds of millions of years if the devolution really happens. As we can see, our future is extremely optimistic.

However, the mankind facing with no unpreventable risks that endangers the external force of the overall survival right before the Sun turning into Red Giant, this analysis is concluded after excluding the black hole swallowing, collision of fixed stars and independent planets, threats of micro black hole and anti-matter planets, and alien intrusion. The reason of banishing the series of threatening factors is they are either pure academic speculation without sound practical proof, or objective reality with extremely small probability to come true. In over thousands of billions of years, they can be ignored by human beings who should move from the Earth in 5 billion years.

But the foresaid once in thousands of billions of years or more is concluded from probability analysis, no matter how small the chance is, it can not be exterminated and maybe exactly fall on us tomorrow or next year, this is the character of probability law. Therefore, even though we can give a very confirmed inference that it almost completely impossible, but we can say it is absolutely out of the question. As long as the probability

greater than zero, things once in thousands of billions of years maybe realize coincidentally and perfectly in front of our eyes.

The above mentioned risky external factors are simply impossible to prevent and avoid with today's science and technology or in the predictable long time in the future. But if the catastrophe comes to us by extremely coincidence the only thing we can do is to accept the facts.

And in turn, it is absolutely unnecessary for us to prevent the almost impossible external threat through large-scale research and investment with enormous manpower, materials and money. Because the threat we are talking about those with tiny theoretical possibility, before the Sun turning into Red giant, the mankind has a great of deal to accomplish, and do not have to go to war for things that hardly happen to us at the waste of money and labor. Moreover, even with enormous power we employed, it is can be basically confirmed that there is no way to fundamentally prevent the threats. Thus the only choice left for us is to confront this most difficult problem with the small probability calmly.

2. Determining a Reasonable Period of Early Warning

As some of major external force that threatening our survival and well-being is destined to fall on us, we ought to have the issues of precaution taken into consideration. And because the external attack only occurred at a specific time point, it is obviously unreasonable to consistently consume enormous resources on earth to guard against a collision come up every hundreds of thousands years or tens of millions of years, even every billions of years. Moreover, to prepare for something in the unforeseeable future would torpify human thoughts, which lay advert effects on the effective implementation of precaution measures.

Therefore, to prevent the crucial external menace that endangers the being and happiness of mankind, a reasonable and secure early warning period should be determined for the institution and implementation of effective precaution and countermeasures in a scientific and rational time.

It should be emphasized that the early-warning period must be reasonable and safe. For example, the evolution of Sun into Red giant in 5 billion years is a clear and realizing external threat which related to the overall human survival. To address such a danger, 1 billion years of early-warning period should be set aside.

It is decided according to the integrated adjustment from the extension of scientific measures and capacity we have today. (Maybe many years later, the judgment will be adjusted with the further development of scientific technology).Because the only solution for us to survive the threat under today's scientific and technologic circumstances is to leave for other stars; or establish huge universe living space; or push the earth to the vicinity of a new safe fixed star. However, the above designs are beyond the capacity of today's science and technology, further research is required to complete them or put forth better programs, and achievements by numerous scientists as groundwork, the height and depth of the science and technology is far exceed the present level. Therefore, to complete the task, hundreds of millions of years must set apart till the science and technology get ready.

At the same time, there can not be any mishap when it comes to the survival of humanity as a whole, so the early-warning period should be as sufficient as possible. And the Sun will have become instable a period before turning into Red giant in 5 billion years, regularly presented some "troubles" which will be a big mishap for the earth ecology. We cannot choose to leave the solar system exactly when the sun evolves into Red Giant, but

long before it happens, we should leave in its stable combustion period. Actually the 5 billion years we mentioned is not a 100% precise estimation, enough time must be set aside for error judgment; otherwise catastrophe will befall the mankind.

But other threats needs no such a long-term early-warning period. As a matter of fact we have been closely observing the asteroids or comets that may hit the Earth, only dozens of years of early-warning period is enough to solve the problem. For with current scientific and technical methods, through several decades of preparation, a effective set of solution can be worked out and implemented, for example, sending nuclear bomb to minor bodies through spaceship, changing the orbit of minor bodies-they are perhaps very reasonable schemes. And the implementation cost only decades, even ten plus years actually.

Early-earning period reserved to address genic degradation should be started when there is obvious sign. The human gene degradation won't suddenly occur to the whole group, taking mankind as survey object, it is bound to happen firstly from individuals or particular groups. It is a slow and gradual process, not a violent degeneracy that perishes the mankind at once. So we still have time to fix for such threats.

At present we have had a better command of gene reengineering techniques, it can be accurately and easily put into operation with further advancement; and the deep-going implementation of the human genome plan can soon precisely extract the knowledge of the internal structure of all human genes and their genetic information; plus we can still make progress based on the existing clone technique, artificial insemination, gene refrigeration and preservation technique. Based on the above realities, it is reasonable to set the early-warning period when there is obvious sign of gene degeneration.

Longer early-warning period should be left previously to cope with the disappearance of terrestrial magnetism of which the specific time can’t be truly forecasted. Of course, the disappearance of terrestrial magnetism is less harmful than the Red Giant and minor bodies collapsing Earth, as well as human gene degeneration. And the damage is indirect, so maybe a relatively small investment is enough for the corresponding precautions, but the early-warning period should be spared more than adequate.

A reasonable and secure early-warning period is decided to guarantee the necessary demand of survival and well being of the mankind, either too long or too short counts against the realization of the value of human subsistence and happiness.

3. Reflection upon the far-reaching principle

The two principles of the entire research basis in the book is introduced in Chapter 2, namely “Maximum value principle” and “Far-reaching principle”, the latter one refers to our vision of research should be as broad as possible in space and as long as possible in time. Thus, we set the space that involved the entire universe, and time span from the beginning to the end of universe.

According to the conclusions from former study, we can see that there will be no inescapable external factors that jeopardize the subsistence of the entire human race in 5 billion years, and those with actual threat can be prevented with slight progress of present scientific and technological measures. This tells us, the mankind can absolutely, within several billions of years, spend more time and energy on our actual interest with peace and calm in mind, for if we invested too much on the external threat that seem light years away, we will be the alarmists who waste money and power to ruin the realization of human value.

At the same time, the confirmation of the conclusion pointed out particularly to us that there is still time for us to live free from worry for billions of years even with external scare out there; the main attention on the study of external factors that affect the human existence can be distracted to the self-threat of mankind.

With the foresaid conclusions and collection of our thoughts of the far-reaching principle, we found that to set such a long time and broad space for the study is neither for what we are going to do in the future billions of years, nor what we explore to the deepest part to the universe for, but exclude things we don't intentionally to do, and finally set feet on the level of reality with billions of years and broad universe as reference and mirror: what we should do for the world in which we are living today and in the near future? And what kind of possible realistic problems we should carefully cope with? The conclusions obtained through the above methods are truly profound, scientific and complete.

Section II: The Weaknesses of Human Nature

1. Imperfection of human evolution

The reason why human beings looks like today results from the evolution of life, on the way here, the biggest distinction between the mankind and animals is the human evolution started from brain, which means the human wisdom made us adapt to the nature and finally rule the Earth.

We learnt from the further specific analysis on the differences between evolution of mankind and animals, a survey of animals' adaptation to the nature was made in perspective of evolution, their evolution was named by "general evolution" which manifested in two aspects, development of "body" and "instinct".

First, animals must develop their bodies that herein refer to all other organs except brain to survive the environment. In order to ward off the cold, animals grew skin and hair that thickened with the height of latitude, this is determined by the climate; many gymnosperms were extinct with the flourishing of angiosperm, which resulted in successional extinction of gymnosperms–eating animals, for their digestive system could not get with the new food; factors that threatened the existence of rats and insects were numerous, they could die at any time, in order to keep alive, they developed the original reproductive parts to be mature earlier, faster and more productive to survive through mass mortality.

But this is not enough; all kinds of animals, even with body that gets with the environment, will still sooner or later be exterminated if they are blunt and vacant like walking corpses. There is an equally important content in animal evolution as body development---instinct. All animals have instinct; it is a reaction to survive, mate and forage, etc.

In the evolution to accommodate to the environment, animals can keep alive only by the integration of instinct and corresponding physical conditions.

The essential distinction between men and animals in addressing the environment is that men can actively fit themselves in, and have the desire to create and change the environment, as well as initiatively enhance their ability of harnessing and redeveloping the nature. Exactly for this reason, the mankind experienced not only

"general evolution" (evolution of body and instinct) that similar to animals, but another kind of evolution animals hadn't gone through-- the "intelligent evolution".

Apart from general evolution, intelligence evolution is also a unique part of human development comparing to any other species, which included two parts --“creativity” and “rationality”.

Creativity refers to the ability to understand and change the nature, as well as the ability to take the initiative to fit in the environment, and it embodied in human mastery of science and technology.

Animals grab and take food in the most basic and simple form, they chase the quarries, but don’t know how to get it in a creative way, and they have no particular means to flavor the food except chew them. But the mankind was able to create; the primitive people learnt the meat was more delicious after being roasted by fire with which many inedible things were made their food. The mankind had very early come off the simple collection period and grasped the domestication of wild animals and plants. Today we use high-tech means to significantly increase the yield and variety of crop, and dramatically speed up the growth and reproduction of meat animals.

Animals completely rely on their body functions, and regulate the thick and length of their hair seasonally to accommodate to the climate change. But mankind learnt to use fire very early, in the freezing ice age, the mankind didn’t grow any more hair or thicker skin to withstand the bitter cold; primitive people had a very crucial way to keep out cold wind when went hunting—simple clothes made by fell. Nowadays, all kinds of costumes are not only for resistance of cold and decoration, but also regarded as art.

Animals construct simple lairs by their light of nature. The mankind builds houses based on their creative abilities. The original mankind made bricks by mud and roof by couch grass, today we have numerous kinds of construction materials, people smelt iron into steel, burn limestone into cement, melt and pull the quartz into glass, process the rock into stone material, make paints and wall papers through chemical means, beautifully-decorated buildings sprung up straight from the ground, air-conditions and central heating make our living space as warm as spring all year round.

However, the humanity is very comfortable to apply the most advanced creativity in war, and never hesitate to kill others from human race. And they used to extort immoderately from the great nature with our creativity, and seldom considered the tolerance of the nature and the sustainable survival of our descendents. The mankind stiffly insisted on the precipitant spirit when it comes to the exploration of nature law, but gave little consideration to the deadly revenge that the science and technology would bring, and if the one-way pursue would lead to the real happiness. This is the result of low degree of rational evolution of mankind.

Animals are of no reason; feeding cubs, never eating the same kind are all behaviors by instinct. Ration is a wisdom developed only among the human race; it is a crucial human nature that fundamentally differs from animals.

When people realized the emission of greenhouse gas would cause global warming that result in catastrophic consequences, the governments gathered to have a special conference and signed multi-lateral agreement on the restriction of greenhouse gas emissions, this was rational behavior; when people were aware of the crazy expansion of nuclear weapons would destroy the mankind, and they advocated nuclear disarmament, which was also action of reason.

However, there are two imbalanced phenomena of human ration, we call it unbalanced intelligence evolution, or unbalanced evolution for short.

It reflected firstly on the internal imbalance of human species. A minority of the human group has relatively high degree of reason, but the majority has not; the imbalance also referred to fluctuation and instability of human ration.

The second imbalance is the far slower evolution of reason than the development of human creativity. There are several leaps during the evolution of human creativity; our ancestors had learnt to use primitive tools millions of years ago, especially the use of fire, which was considered as the first leap. About ten thousand years ago, human beings came into civilization from savage, and started the second leap of creativity habitually called agricultural evolution.

The third leap began in the middle of 18th century. And symbolized by the creative application of steamer, from which people saw the great advancement in productivity brought by machines, and the ease and joy free from burdensome manual labor, the irreplaceable contributions by science and technology, as well as the enormous fortune hidden in it. We seemed to suddenly see the irreplaceable intention for mankind and the great deal of potential wealth from of the science and technology. Upon that, to start with the knowledge of nature essence, and unearth all available science and technology to make fortune became our common sense. This is the inner power that pushed on with human creativity to a higher leap to the Industrial Revolution.

Since then the world has been thoroughly transformed, we got into the minimum space of inside atomic nucleus, and maximum to the far edge of universe 13 billion light-year away. We have been very familiar with the achievements made in field of literature, art, philosophy and social society, but the numerous breakthroughs were more amazing and significant to change the world.

Our minimum cognitive space has gone into inside atomic nucleus and maximum to the far edge of universe 13 billion light-years away. Through the study of inside atomic nucleus, a power named “strength” was found can release the most powerful energy in the world, the nuclear weapons manufactured with it can easily destroy a city with millions of population; the scientists revealing the phenomenon of electromagnetic induction that can realize the transmission of all kinds of information in a second to somewhere ten thousands miles away with “messengers” of invisible and impalpable electromagnetic waves; through study of nucleus, biologists finally got double-helical molecule called DNA which is exactly the carrier of biological genetic genes, the color of flowers and physical appearance of animals can be decided as they want.

According to the evolution of human creativity, the first leap took several millions of years, the second one lasted for ten thousand years, and the third taken over the world only in over 200 years, but the changes had been created were far more than all the achievements people accomplished during the past millions of years.

From the progression of human creativity, we can see that each leap and interval were shortened than the earlier one, but the energy burst out by them was much more than the earlier ones. This is consistent with the traditional line of thoughts of evolution. The more advanced the creature is, the faster they evolve.

However, creativity is just a part of human intelligence evolution; the other part is the “ration” that manipulates the creativity. What pitiful is the speed of human ration development contrasted sharply with creativity progress which seemed quite slowly.

In aspect of creativity, the animals have been not comparable to the mankind who remained many animal attributes, some even worse than animals.

A simple example, the mankind and animals both keep the typical inner-species competition, cannibalism is the most unreasonable human behavior. Before the human society taking shape, the most developed techniques were applied to weapons that were used to attack both animals and men. When the mankind was brought into civilized society by creativity, hunting for animals is not a necessary source of human food, and raids by wild beasts were no longer a main threat for the mankind. Instead, mutual massacre inside same kind became a major threat, and the mankind manufactured the best technology in production of killing implements.

Since the Industrial Revolution, the unlimited power of human creativity was highlighted like the eruption of a volcano, however, the human ration hasn't made any progress along with the development of creativity that made the science and technology change with each passing day, the power flared up from achievements has been more and more strong, and the ration that controls the application of power has been no difference with where it were hundred or thousand years ago.

All the most advanced fruitful results of science and technology were in the first place put into the manufacture of killing tools, the fortune they brought was as much as the hurt and pain, this trend seemed to have become a fixed rule. Science and technology is growing in a rapid speed, so are the war measures which, after the Industrial Revolution, have been upgraded every year going beyond the past 100 years.

The imbalanced phenomena well reflected the imperfect human evolution that specifically manifested in the weaknesses of human nature.

2. The weaknesses of Human Nature

The weaknesses in human nature refer to a unique inherent character of human species emerged with the formation of mankind, unless there is a significant evolution occurred to mankind, the external representation of the weaknesses of human nature is not something constant but influenced by the differences of time, region, group and social environment, all kinds of factors, however, even though like this, the characteristics of the weaknesses are not going to change.

So what are the weaknesses of human nature? Here all features that adverse to the value of the mankind as a whole are included in the range. However, there is a lot of it, it is very complicated to expound them one by one, not necessary as well, because some of them in human nature have a small negative influence on the overall value of humanity, which worth no particularization one after another. Well, the items set forth as follows are bad factors that possibly impact the realization of human value. The subsistence and well-being of the mankind are seriously threatened and the overall existence and happiness of the mankind may be ultimately endangered by weaknesses that we can not deny.

（1）Interest-oriented sight

There are three major contradictions of interest in front of the mankind: immediate interest and long-term interest; surface interest and fundamental interest, partial interest and overall interest. Usually the long-term, fundamental and overall interests can not be directly perceived, some deeper thinking must carried out to get clear about them, even if they can be felt, benefits brought by them can not be appreciated right away. However,

the immediate, surface and partial interests are clear at a glance, and once you get them, the profit can be obtained right away, these interest that can be felt within the filed of vision are called interest in sight, which indicate the interests we had gained and can be gained at any time, or the profit brought by these interests can be sensed straight away.

Arguably, the immediate interest is included in the long-term interest, and surface interest is contained in fundamental interest, and partial interest is covered by the overall interest. If any damage occurred to the long-term, fundamental overall interests, the immediate, surface and partial interests will definitely be affected, that proves the importance of the former must be superior to the interest in sight, once there are contradictions between the two groups, the latter must subjects to the former, which is in line with the common sense. However, the situations often go the opposite way, because of the obvious and accessible attraction of the interest insight, in most cases, people chose the immediate, surface and partial interest rather than long-term, fundamental and overall interest, and this shows the sight towards interest in the human nature.

People often trap in the habitual thoughts like this: they always think the problems they are facing are more important than that of others; and the problems they are dealing with are more crucial than what they are going to do; and the difficulties they encounters should be solved at any cost. Exactly such state of mind makes people easily lured by the interest in sight.

（2）Extreme selfishness

We consider that a person who harms others to benefit himself or always thinks for himself selfish, but there is a weakness that make a full play of the selfishness in human nature, someone even do things that bad for both others and themselves. Generally, the original intention of extreme selfish acts was to hurt others for self-interests, or give no consideration to other's feelings, but with slight analysis, these behaviors will be bound to turn against or end up with no profit to those who are full of themselves. We here call this weakness as extreme selfishness in human nature.

For example, wars have been being there with human history and a catastrophe for both parties. Because the party who drives the war is slaughtered as they are killing and plundering other's wealth at the cost of their life and blood.

We can imagine as well that a person walks across desert with a little water and food must properly portion out it. When a group of people go through desert with inadequate water and food, there always be someone eat more regard less of others' condition, in fact, when all the provisions used up, they have no way out of the fate with the rest of the group. And the selfish ones have no idea about the consequences, but he won't behave rationally once he lives in a group, this is led by the extreme selfishness in human nature.

（3）Self-deception

In order to vindicate for the unreasonable conducts, people usually made up some acceptable excuses which is not only for deceiving others, but also themselves, to felt at ease and justified about what they had done. The same thing happens when there are dangers or difficulties; we are used to believe those obvious absurd things or opinions to persuade of ourselves. Here we call this characteristic as self-deception in human nature. It is an unreasonable act to console oneself and hopefully hoodwink and deceive others.

The self-deception in human nature is generally showed in the following situations, first, when people run into thorny problems that they are not willing to pay more efforts to solve, and want to find a way to release the fear inside; second, every time when there are conflicts between the interest in sight and long-term, fundamental and overall interest, people need reasons for their choosing the interest before eyes or getting rid of the guilt; third, when people can not stay calm about and make a clean breast of what they have done to both themselves and others. People would make up a lot of seemingly reasonable but actually ridiculous principles, or likely to accept those feasible from the outside but actually unpractical ways to deceive and comfort themselves and others.

The self-deception in human nature holds people back from reflection and correction of and even continuously reinforces the weaknesses and irrational behaviors. Because any major irrational act is explained by a reason seems acceptable to ourselves, which enables us to feel no qualm to do things that deviate from the overall value of ourselves, and push us step by step to the dangerous destiny.

(4) Eternal fights

The human disposition to fight originates from the competitive mentality for which exactly inside the same kind, there comes jealousy, fight for victory, vanity and cannibalism. Human disposition to fight is showed from the baby stage when they begin to perceive the surrounding environment, and continue for their whole life, at the same time, it goes along with the human society from beginning to end. So we consider the eternal fight orientation a weakness of human nature.

The irrationality of mankind for the most part due to the combative human nature, an independent individual usually tries to handle problems according to his own rational level, but the competitive groups are totally different.

Wars arise mostly for the bellicose nature of human race which involves the competition and jealousy among countries, ethic groups and religions, as well as the vanity of being leaders. In the same way, if there is only one country around globe, the reasonable emission of greenhouse gas should have been already achieved, but when there are a lot of countries coexisting at the same time, it is hard to carry out the controlling actions. Because all parties in the multilateral negotiation worried about their over plus obligation would let others off lightly, the negotiation is protracted.

The weakness reflected on individuals makes every one carry on the burden of constant struggle. A person with no intention to compete needs only adequate clothing and food to live, while a person belongs to a group may pay attention to other’s life all the time, and anxious about falling behind others deep in heart, this is the reason why people fight throughout their life with tired body and heart till the end.

(5) Endless Desire

The human desire is unlimited, people always want more on top of more, never get satisfied, and most of them are rapacious, this inherent characteristic in human nature is their endless desire.

Someone used to think, the human desire might be fill up when an extremely rich environment was established, and every one can get whatever they want. In fact, this is only people’s assumption or hope, the world may be

capable of fulfilling all the need of mankind, but content their grasping greed, the day when the mankind is contented will never come true unless a major change is made in human nature.

The infinite aspiration of mankind gave an impetus to the increase of material wealth and the development of science and technology, in addition, wars and criminals, mental anguish, social turbulence, environmental damage and so forth.

Section III: Re-recognition of the Internal Threat

The self-threat were originated and resulted from the weaknesses of human nature, and as long as they aren't changed, various new self-threats will necessarily emerge under different conditions, and new influences of time will come into view.

The weaknesses of human nature are the inherent characteristics of the unique human species, before the further evolution occurred to mankind, there is no way for them being changed, and the further evolution is quite a long process that can not be completed overnight, our analysis and prospect towards future are based on these existing intrinsic weaknesses which are not counted on to be fundamentally changed.

1. The decisive role of science and technology to the self-threat

The major self-threat we known have been elaborated in the former Chapter, and through the following analysis on the threat we can find that each of them is closely related to science and technology which, directly or indirectly, played a crucial role.

(1) The reinforcing effect of science and technology

We learnt through all the analysis of the enumerative self-threats, part of them are existing problems since ancient time, for example, wars, terrorists attacks and gap between the rich and poor, and so forth. However, according to the analysis of the throughout history of human society, the existing problems and their threats to the subsistence and well-being of human race are far more serious than any period in history, with the progression of human history, all getting more and more critical, the increasingly sharpened trend led to the sudden turn to crisis in every key period. And the speed of this trend will be unexpectedly accelerated, we consider this sudden turning point as a breakthrough point. This means the science and technology aggravated the destined crisis, we believed the science and technology reinforced the self-threat, which was called science and technology reinforcing effect.

The role of this effect can be apparently seen from the developing tendency of war. When the human race started to get rid of the animal character, they bite or scratched for fight, and the appearance and the increasingly larger and crueler scale of wars are consequences of the application of instruments and advanced and destructive weapons.

Look back at the influence of science and technology on the war history, from the simple form of combats by biting and scratching at the beginning to the nuclear wars in the predictable future, with the former ones only few injured, but with the latter there will be billions of casualty; and the former only led to the slight sadness of

two opposite groups, but the later will be bitterly painful for the whole mankind, so the reinforcing effect of science and technology to the war damages is conceivable.

Terrorist attacks were also emerged with the formation of human society. An important mark differed from wars is they are proceeded in secrecy, it is an action with very few persons in form of short attacks and mostly just a one-time raid. In the cold weapon age, the killing measures were limited by knives, spears, swords, arrows that only hurt one person at a time, as a result of which the terrorist attacks back then usually caused one or several deaths.

The destruction of terrorist attacks has been changed to the essence since we reached current standard of science and technology. Detonation of high explosives, highjack of plane to hit skyscraper, attacks by bio-chemical weapons, etc, such raids can result in hundreds of thousands of casualties, and science and technology has reinforced the danger by multiple times.

The gap between the rich and poor was emerged with the social development pushed by the technological progress. At the primitive collection period, even distribution was carried out in every group, so there was no wealth gap.

Technological revolution advanced the advent of agricultural age and led to the end of mass migration, and gave birth to surplus products upon which generated the gap between the wealthy and poor. The coming of industrial age expanded the gap by a much faster speed. The development and application of science and technology heightened the level of productivity by hundred and thousand times, the competition between various nations and enterprises relied more and more on the creativity of science and technology, in such a environment, the countries won the competition were far richer than the lose ones, so were the enterprises. At the same time, the income difference inside the enterprises, the earnings of enterprise leaders and senior managers were much higher than the massive workers and ordinary employees. At the same time, the change of social status brought by the expansion of science and technology accelerated the extension of the gap.

(2)The threat caused directly by science and technology

Science and technology not only reinforced the inherent self-threats, but also lay direct imperil over the subsistence and happiness of human race. For example, the successful development of biochemical and nuclear weapons was the direct product of science and technology.

Industrial Revolution lent an impetus to the expansion of science and technology, and the revolution of war arms, the chemical, biological and nuclear weapons, as the most destructive killing measures at present, are without exception the outcomes of scientific technology, every step-up of the damning power and brutality of the slaughtering means are all contributed by the functions of science and technology, this is very evident.

The developing relations between internet criminals and scientific technologies are also direct, computers emerged as the result of highly developed science and technology, and internet is built based on the mature universally-applied computer techniques. The damage to o-zone layer is caused by the utility of Freon which came into being with the progress of chemical industry.

The global warming, acid rain and air pollution are all related to the development of science and technology which promoted the progression of industrialization, the substantial industrial production, and the widely-used

industrial products such as automobiles, planes and ships was of course caused the generation and mission of greenhouse gas, acid gas and dusts.

The abuse of non-renewable resources was also arisen from the same reason, the massive utility of resources and the products with large consumption of various resources would be impossible without large-scale industrial manufacture, which is exactly the inevitable result of the development of science and technology.

The first reason that brought water crisis is water pollution which includes industrial pollution, agricultural pollution and household pollution, under the modern circumstances, all kinds of pollutions are closely related to the science and technology. The quality of water in the river was deteriorated by all kinds of toxic substance from the discharged industrial waste; in the past, agricultural waste included only excrements and organic fertilizer, but today various kinds of pesticides and chemical fertilizers are added; including household pollution, also various types of detergents, these chemical products were results of industrialization, as well as the effect of science and technology development.

On the surface, the desertification and the loss of biodiversity have little relations with the advancement of science and technology, in fact, they were all come about for the same reason, damages to the forest, grasslands and wetland. The first thing to be affected by the destruction was the increasing distance between the rich and poor, the backward countries were eager to catch up with the developed ones, when their capacity of scientific and technological development can not be compared with the developed countries, they sought temporary relief regardless of the consequences, using the resources in a destructive way. At the same time, the poor developing countries sometimes have the most rapid speed of population growth, the food for the increasing population will be a problem, to settle the subsistence of these people, when these countries had no way out, they would ultimately choose to harm the forest, grassland and wetland. Then, both matter the gap between the rich and poor or population expansion problems are all in connection to the growth of science and technology.

The population “explosion” around the globe was mainly caused by two integrated reasons, on the one hand, the development of modern medical care and medicine technique reduced the mortality rate of babies by large extent, which greatly raised the human life span. At the same time, the enlarged gap between the wealthy and poor constantly boosted the absolute population of the poor, stagnated the education levels and the traditional view of production; furthermore, people from poor countries were not able to enjoy a reliable social security, and people were forced to give birth to more children in order to be supported in agedness; some people even can not afford to buy birth control aids to take contraceptive measures. The advanced of medical care and medicine standard, and the increased gap between rich and poor are closely in relation to the development of science and technology. The improvement of medical care and medicine was no doubt a good thing for the mankind; but the progress of science and technology also led to an enlarged distance between the rich and poor, although the mortality rate of babies were knocked down, the life expectancy increased, and the number of birth has not declined, which gave rise to the ultimate rapid expansion of population, the earth has been overwhelmed under such pressure.

2. The uncertain factors of the self-threat

(1) Uncertain factor No. 1: The ultimate destruction of science and technology

The highest value of the mankind is their overall subsistence, the key part of the research of self-threat naturally focused on the radical self-destruction which meant exactly the doom of mankind, the failure of the overall

existence. Since science and technology are decisive to the self-threat, will it ultimately endanger the survival of the mankind as a whole?

So we have to know how acute the final destructive power of science and technology will be at first to find if the overall existence of the mankind will be endangered, it is impossible for us to make a clear identification to the seriousness of the self-threat if we can't deeply understand this problem.

The reason why we are not able to decide the ultimate destruction of science and technology is because today's mankind have just completed their evolution for less than 50,000 years, and the universal influence of science and technology on human society has just started from the Industrial Revolution at only 200 years ago. Yet, the mankind still has a long way to go, if we are willing to accept nature's arrangement, we have billions of year to go, and upon our hope, it would be the best that the fire of human life never die out.

It can be sure that the science and technology we grasped today is capable of endangering the subsistence and well-being of the mankind, but not enough to destroy the mankind as a whole. People often say the nuclear war-head is capable of devastating the mankind for multiple times, but this is a simple calculation, according to the equally-shared detonation yield converted from the warhead can truly destroy the mankind over and over again, however, a situation like this is impossible because the explosion of nuclear bomb is to release the power at a centralized point around which all the architectures will be ruined, all life will die out, but those far away from the explosion center will be safe and sound. Even though the total amount of nuclear reached 70,000 nuclear bombs around the globe at the peak period of nuclear armament competition, it is impossible to destroy the entire human race, even plus the chemical and biological weapons. Besides, these weapons are possessed by different countries, and it is almost impossible that they are used at the same time; once they are put into use, the mankind will try to avoid the attacks in various ways, and seek for methods to keep these weapons from multiple applications. The judgment that the weapons within the existing scale of nuclear arsenal can perish the whole mankind is therefore just a description and appeal for fear of human destiny; actually, but the practical situation is quite different.

Even so, we still reached such a clear and definite judgment: the future scientific technology is by no manner of means stay at today's level, there must be more destructive means than what we have today. Then whether the ultimate destruction of science and technology is able to ruin the humanity is the first question that must be buttoned down for researching the extreme destruction of self-treats.

(2) Uncertain factor No. 2: if the mankind can made a reasonable use of science and technology

We cannot guarantee if the mankind can make a rational use of the achievement of science and technology, each of them can be truly applied to the aspects of overall value pursuit of the mankind, but not firstly to wars or other fields that against the integral value of mankind as nowadays.

The mankind almost never completely and justly used a scientific and technological result throughout history, no matter the achievements from Stone Age, Bronze Age, Iron Age, or from Industrial Revolution and Information industry revolution, nearly all the scientific and technical outcomes, as long as they were the most advanced at that time, were at the first place put into the war. In today's world, we can as well plainly see many countries are apparently advocating peaceful use of the nuclear power for the hidden attempt of obtaining related nuclear techniques and nuclear weapons; some countries always publicized the reasonable use of out space, actually, the resource satellites and meteorological satellites can be easily converted into military

satellites by just slight alteration. The so-called peaceful development is by nature a particular level of military competition, no matter how many slogans of “peace” we cried, the science and technology will be surely used deviating from the right direction.

For the past 200 plus years, with the promotion of science and technology, Industrial Revolution has greatly enhanced our ability to change the world, but the ration to control ourselves hasn’t been improved. Then, although in the past the mankind didn’t lend much control over the utility of scientific fruits, can we be more rational in the future? The conclusion made upon this is another issue for us to make certain on the ultimate destruction of self-threats.

(3) Uncertain factor No. 3: if the mankind can accurately judge the performance of science and technology

We can clearly see the extreme danger brought by the careless use of science and technology. For example, the damage in o-zone layer was caused by Freon which is extensively used in refrigeration industry, according to research from DuPont Company after its invention, the Freon was found a non-toxic, stable, non-corrosive metal with non-combustion and other characteristics, so blind conclusions were made to use it as the best alternative refrigerant. But we didn't know then the Freon would float up with the air and directly into o-zone layer for its stability, decomposed by ultraviolet radiation, it became the biggest killer to o-zone layer.

The abuse of DDT is the same, the effect of DDT was found as a magic pesticide that only have execution to harmful insects, and no toxicity to humans and most useful creatures, the inventor P. Müller won the Nobel Price for this contribution. As a result, DDT was used around the world in agriculture, forestry and other related fields, and became the necessity for household disinfection. But problems gradually emerged during the using process, DDT made the shell of bird egg fragile and thinner, and resulted in the death of birds, some bird species were even threatened by distinction; moreover, although DDT can not dissolve in water, but it can in oil and easy to be absorbed, and its toxin to human and other creatures is increased, therefore, the utility of DDT had to be banned.

As we can see, we have unconsciously walked into the forbidden zone of science and technology, even as many presently used scientific results were found by accident, the damages and destructions were often impossible to defend effectively. The fact told us we should be firstly clear about if the mankind can completely identify the performance of science and technology.

(4) Uncertain factor No. 4: if the mankind is able to control the development of science and technology

The other factor that effects the final conclusion of self-threat is we are uncertain about if the mankind able to dominate the development of science and technology. It should be said that no matter how destructive the science and technology is, at least it won’t destroy the mankind as a whole at present, as long as the human race has the reason to realize the damage of science and technology and immediately control the development, when we stop the progress, or guide it towards a very safe direction, the science and technology won’t finally threat the overall subsistence of the humanity, the future of mankind is still optimistic, based on the situation we can also make corresponding positive arrangements for the future.

However, in the light of the developing history of science and technology, the reality is not constructive. The progress and application of science and technology can be explicitly divided into two extreme different stages by Industrial Revolution. People already felt the benefit of technology during the long-term human evolution

before the Revolution, but it is limited due to the small collection of the achievements and the instructive role of science to technology. Therefore, even if there are always progresses during the progression of science and technology, but not fast.

After the Industrial Revolution, the status changed sharply, and the fruits by science and technology are enormously accumulated, the human race has seen the grand emancipation of productivity brought by technical progresses, and the great energy burst out by the combination of science and technology in evidence. Exactly for an understanding like this, people's zeal to pursue the science and technology erupted like volcanoes, and almost developed into a wild enthusiasm and blindness, and never doubted the justice of the progress, always marching forward courageously, and rushed deeply into the science without hesitation. Based upon the basic historical facts, we have no confidence about our control over the development of science and technology.

Chapter VI: Self-annihilation of Human Being

The extinction of human being refers to the overall destruction of human being. From the above-mentioned analysis we can draw a definite conclusion, that is, from the view of external factors, taking the sun evolving into a red giant star as a sign, human being do not need to worry about that risk of overall destruction in several billion years. Thus, except the external threat, whether human being can be continuous reproduction in an endless succession depends on them. In addition, from the above-mentioned analysis we can also draw another definite conclusion, i.e. the force of extinguishing human being fully depends on the factor of science and technology. It is because only by relying on science and technology can human being is extinguished. Any other force doesn't have the capacity to extinguish human being that is a dominate species and greatly intelligent.

Section I: Necessary Occurrence of Annihilating Measure No.1

Philosophy Assumption

I. Inconceivability of Science and Technology

Development of science and technology is closely linked with history of human being themselves. When you turn up the pages of History of Science, you can find solid experience to identify these facts. The earliest achievement of science and technology in human history was the application and chipped stone tools and using fire. These primitive inventions were just the beginning of human history.

The ancestor of mankind has undergone hundreds of thousands of years' development, during which, they have overcome numerous obstacles in the field of science and technology. During any period, human being experienced incomprehensible natural phenomenon, had a strong will to conquer nature and remake nature, also, hold nature in awe. The achievements created by science and technology are always unbelievable and imaginable. So many things, which have thought to be unchangeable from generation to generation, have been changed by human being. People even couldn't believe even though some scientific and technological achievements have been fulfilled, even some scientists leading in this field had the some feelings. The reason for this is that the force of science and technology is so huge that far beyond the subjective imagination and experience.

In order to fully illustrate the inconceivability of science and technology, let me introduce several scientific and technological achievements which have exerted far-reaching influence on human beings, from which you will find that, some achievements are very magic, even from the perspective of today.

(I) Electricity, Electromagnetic wave and the Application

In 1844, the United States Congress established a telegraph circuit from Washington to Baltimore, which was the earliest that taking electricity as information media. 21st, May was the first day of opening of the telegraph circuit. Hearing that information between two places could be exchanged by a wire, people thought it was so

amazing. The telegraph apparatus room was crowned by people ring upon ring. Curious people were discussing and betting that, telegraph was not faster than a good horse. At that time, national congress of the Democratic Party was held in Baltimore. The name list of the candidates for President has spread throughout Washington through telegraph. All the bystanders and American politics were astonished and could hardly believe.

It is screaming and ridiculous for us today to discuss that whether the telegraph is faster than a horse. The speed of electricity is almost the same as the speed of light, and is zillion times faster than a running horse. Besides, it is not limited by weather and topography and don't need rest during intermission. But, at the beginning of 19th century, measures to pass on messages used by human being were horse, boat and two legs of themselves. Though signal fire could send messages, it could only transfer abstract war messages, not detailed contents. Because people have did that for generations, it was natural for them to bet whether telegraph was faster than a horse.

Because of the discovery of electricity, telegraph was put into application. Before making know of electricity and electric current, people could not break away the concept that transferring messages by the movement of animals and themselves. Let us just imagine from the perspective of that times, we could comprehensive this.

There is another thing that is as fast as electricity, i.e. electromagnetic wave. Today, even an ordinary middle school student can know a simple physics theory, i.e. electricity and magnetic can be interacted, from which electromagnetic wave can be produced. This is the basic knowledge of electromagnetics, a sub-discipline of physics. However, it was difficult to discover this regularity. At the early stage, it was nearly unanimously thought that, electricity is electricity; magnetic is magnetic, which are two totally irrelevant things. At the early 19th century, after philosophical thinking, Oersted believed that there is links between electricity and magnetic. After several experiments, in April 1820, he was the first to verify the magnetic action of electricity. In the following, Faraday verified that magnetic could induct electricity in laboratory, and put forward the Law of Electromagnetic Induction. After summarizing the electromagnetic theory, in 1864, Maxwell put forward the deduction that electromagnetic induction can produce electromagnetic wave, which was verified by a young scientist called Hertz later during his experiments. This is the early process of establishment of electromagnetic theory.

Discovery of electricity and establishment of electromagnetics have brought humans into an era of electric appliances. Due to the recognition for electromagnetic induction, electric generator and electric motor were invented, which enabled different kinds of circuits crisscross the country at present time. In the past, the only recognition for people to sky was wind, rain, snow or cloud and fog. But today, we know clearly that, there is a substance existing in the air anywhere, which can't be seen and touched, but playing an important role, that is electromagnetic wave.

By virtue of electromagnetic wave, we can chat with our friends and family members thousands of miles away anytime and anywhere through mobile phone, just like talking face to face; when we turn on TV and see various entertainment programs and news, we see them just as the real things; we can carry out remote control on the earth for a space vehicle even it flies several billions of miles away and to the distant fringe of the solar system. But we take all these wonders in science and technology for granted.

However, just imagine, what should we feel about if we were back to 200 years ago?

We often see in science fiction films that men living in several years ago come to today's world through a time tunnel. When they see the images in TV, they are frightened out of their wits and much curious just like see some ghosts and gods. It can be ascertained that, if living 200 years ago, most people can't believe the reality in today's world.

In fact, even we have fully understood the speculative knowledge about electricity and magnetic, we are amazing about the scientific and technical payoffs which are brought about by this knowledge.

In 1883, Edison found an interesting thing when he was developing light bulb. When sealing a sheet metal and lamp filament into a light bulb, there was electric current running through the lamp filament and sheet metal if positive voltage was applied to sheet metal; otherwise, there was no electric current. At the early 20th century, vacuum tube was invented on the basis of this research achievement. Diode can be used for detecting action, while triode can be used for amplifying signal.

The invention of vacuum tube created conditions for radio-communication and broadcasting, through which, people can receive radio signals by radio. Music and news can be transmitted in air through the form of electromagnetic wave. They can be broadcast through radio without using the electric wire, which is much better than wire line phone and telegraph.
Based on vacuum tube, scientists developed the first electronic computer at the end of 1945, which could carry out calculation as a substitute for human brain. It was palpable that what a wondrous thing replacing human brain by machine, more wondrous was that this machine was produced by human being, while its computing capacity was far better than any of the smartest person. The first computer was really a huge monster, with total of 18,000 vacuum tubes, weight of 30 tons, covering an area of over 170 square meters. It could operate 5000 times per second. During its 10 years of operation, calculation amount carried out by it was more than total amount of human brain in history. How many people would believe and understand this outstanding achievement before the invention of compute? However, after 60-odd years of today, when we looking back to see computers at early stage, we just can't help but unanimously think that was just a primitive "department of pediatrics"

In the mid 20th century, transistor was invented by applying semiconductor materials. Transistor not only has the same performance as the vacuum tube, but also has some advantages such as small volume, light weight, long life span, and low cost, low energy consumption and without warm-up. So, vacuum tube was immediately replaced by transistor which was applied in the fields of radio and computer at once. The application of semiconductor materials has undergone three stages, that is, from transistor to integrated circuit to large-scale integrated circuit. A vacuum tube was as large as half of a fist, while the earliest transistor was as small as a rice grains. Later, integrated circuit was formed by combining electronic devices and components and electronic circuit on a chip. At the beginning, an integrated circuit composed several transistors on one piece of chip. With the improvement of techniques, today, a small piece of integrated circuit can contain millions of or even hundreds of millions of transistors.

It was a revolutionary event that replacing vacuum tube by transistor in the field of radio and computer, which has fundamentally improved the performance and features of products. For example, a radio applying vacuum tube was as large as a case, while today's radio is just smaller than a matchbox. The first computer we have said before occupied several rooms. In 1996, in order to commemorate the 50th anniversary of the invention of the first computer, the University of Pennsylvania in U.S. fully copied the computing performance of the first computer in one piece of chip, which was only 7.44×5.29 square millimeters, even smaller than fingernail of

the little finger. But it has integrated 174,569 transistors and had the same computing performance as that of the first computer with weight of 30 tons.

Just 60-year development, at present, computing speed of a giant computer exceeds trillions times per second, that is to say, just for one hour, calculation amount of it will exceed total calculation amount of human brain in history. Could People in hundreds of years before, or thousands of years before imagine this great scientific and technological achievement?

(II) Cognitive Process for Nuclear Energy

At present time, the most powerful force of nature that can be mobilized by human being is nuclear energy. Today, we have made enough cognition for nuclear energy. We can use it to manufacture weapons with annihilating power and to generate electricity. We are not surprised at the fact that a teensy of substance can hold so tremendous amounts of energy. However, it was not at all as 60-year ago.

The cognitive process for nuclear energy fully reflected the inconceivability of science and technology, meanwhile, it showed the limitation of cognition for the mighty power of science and technology, and even the most outstanding scientists lack enough cognition for the mighty power of science and technology in his research area.

The mass energy formula E=MC2 was put forward by Einstein in 1905. At that time, people, even those who believed it was correct, thought it was just a pure theoretical equation and without any utility value. Even though people have realized that what fixed stars like the sun burned was nuclear energy at that time, they thought the gate opening to this energy was so heavy that could only be opened by the power of space objects.

Cognition for elementary particle experienced a long and erroneous process. Until end of the 19th century, nearly all scientists believed that atom was an entirety, the smallest particle in the matter and couldn't be subdivided any more. On the night of 8th, November, 1895, when carrying out experiment on cathode ray, the German physicist Roentgen chanced on a new beta ray, which had a strong penetration factor. It was called X-Ray for they knew little about it. It caused a great sensation in scientific community when Roentgen published this research result in public. People began to evaluate again the question that whether atom could be subdivided any more.

In 1896, some physicists have discovered that uranium ore could generate a ray with strong penetration power, which was similar with the X-ray, even without irradiation of sunlight or other rays. It was called radioactivity later. In 1902, Marie Curie extracted 0.12 grams of pure radium in laboratory, the radioactivity of which is 2 million times stronger than that of uranium. Besides, it could generate heat without burning. Bases on calculation, heat quantity yielded by it was 250 thousand times of coal with the same amount. Due to slow release, energy yielded by it had little value. It became two new elements of helium and lead after completing release.

In 1898, physicists Rutherford discovered three rays given out by radium when carrying out experiment of inspecting X-ray by radium, that is, α-ray, β-ray, and γ-ray. He put forward the theory that radioactivity was the process of self-transmutation of atom, which have caused great impact on the theory that atom could be subdivided and was an epoch-making events in physics history.

Until this point, during the research on X-ray, some physicists have found that X-ray was a kind of particle flow with high speed. Mass of the particle was 1/1841 of hydrogen atom. This was the first discovered particle which was smaller than atom. It was called electron.

In 1911, Rutherford bombarded gold foil with only 1/ 200,000 centimeter in thickness by alpha particle. He found that averagely, one alpha particle among 20,000 was bounced back. It was obvious that alpha particle met some compact matters with very little volume. Actually, this matter was atomic nucleus. Meanwhile, Rutherford made a further presumption that, there was not only particle with positive charge, but also particles without charge. The particle with positive charge was called proton, while the particle without charge was called neutron. This presumption was verified later.

Physicists were still continuing their researches and experiments. But the goal of them was not for getting nuclear energy. Because research of nuclear physics at that time was not deep enough, imagination for nuclear energy still lacked conditions.

In 1919, during his experiment on bombarding nitrogen-atoms by alpha particles resealed from polonium, Rutherford found that nitrogen atomic nucleus could become oxygen isotope after resealing one proton, which was the first time of artificial transmutation. Later, he bombarded several elements such as boron, fluorine, sodium and phosphor by alpha particle, from which proton was released. It indicated that atomic nucleus could be subdivided.

However, proton was not resealed when bombarding some heavy atomic nucleus by alpha particle. The reason was that alpha particle is positively charged, while atomic nucleuses of heavy elements have more protons with positively charge. Because like charges repel each other, so alpha particle without enough energy could not be able to bombard protons of heavy elements, just like a little kid could not move a heavy stone.

In 1932, during his experiment about bombarding boron and beryllium by alpha particle, Chardwick, a student of Rutherford, found another composition of atomic nucleus—neutron. Because neutron was not charged, it could not be repelled by charge of atomic nucleus. Besides, mass of the neutron was much heavier than that of electron, so it could thrust aside extranuclear electron easily. Actually, discovery of neutron was just one step away from opening the door of nuclear energy.

However, in April, 1933, not a long time after neutron was discovered by his student, Rutherford straight out expressed his opinion during his speech about atomic nucleus fission on London Institute of British. He said, it is hopeless to get energy be relying on this measure (that is nuclear energy), because this method of generating energy is poor and low-efficient. It is just pure theoretical supposition that transmutation of atom will be a power sources.

His prediction was very pessimistic. Rutherford was one of the greatest scientists in area of atomic physics and was generally acknowledged as the Father of Modern Experimental Physics. Besides Einstein, no one could match his outstanding contribution and pioneer status. However, when he was standing at the door of nuclear energy and was to open the door just by pushing it, he put forward such a pessimistic prediction. More interestingly, Einstein endorsed his prediction. This fact served to show that might of science and technology was seriously underestimated by the most outstanding scientists, let alone ordinary people.

In 1934, the Curies bombarded aluminum by alpha particle, and then a kind of isotope of phosphor was produced. Immediately, the isotope transmuted itself into silicon and gave out positron. This was the first time to artificially produce radioactive element.

Encouraged by the achievement of the Curies, Fermi tried to use neutron to replace alpha particle to bombard atomic nucleus. At that time, 92 kinds of elements were discovered. So Fermi carried out bombardment experiments for these 92 kinds of elements one by one. When he bombarded the 92nd element of uranium by slow neutron, a new element with total different chemical property was obtained, which was heavier than uranium. Fermi couldn't give out explanation for this; he thought it was a kind of transuranium element just because the uranium absorbed the neutron. But this analysis was wrong.

Hahn, Meitner and Bohr made a further verification and correct explanation for this experiment result, the conclusion was: bombarding the uranium by slow neutrons, uranium atomic nucleus would be split into two after trapping one neutron. The so called transuranium element was actually a new kind of element (barium). During the process of atomic nucleus splitting, it would result in mass loss, thus releasing energy. The process of atomic nucleus splitting was referred to as nuclear fission by Bohr, thus, a new term was created in nuclear physics.
This creative explanation was a major breakthrough in nuclear physics. Based on this, Fermi bloodlessly made further speculation: uranium atomic nucleus could release one or more neutrons during the process of nuclear fission, then, these new neutrons continued to bombarding other uranium atomic nucleus, which would release more neutrons to bombard other unsplit uranium atomic nucleus, thus forming "chain reaction". This "chain action" would be done in a flash and released tremendous energy. This indicated that Fermi has made clear the method and principle of generating nuclear energy, and it was obvious that nuclear energy could be utilized.

However, at the same time, Bohr, one of the giants of science, was still alleged that practical application of nuclear fission was impossible, and given out 15 reasons. Meaningfully, reasons put forward by Bohr were got support from a number of scientists. From this we can see that, how inconceivable the science and technology is, who humbugged all those outstanding scientists.

But, it was understandable. Based on calculation, if one kilogram of uranium-235 is fully made out fission, it will lose 1 gram of mass. According to the formula of E=MC2, 1 gram of matter will generate energy equaling to 20 thousand tons of high explosive TNT when exploding in a flash. You can image how powerful it is. Anyone would be awed with so tremendous power, including those giants of science standing on top of the pyramid. It was difficult for them to accept the conclusion that human could mobilize the nuclear energy.

Fermi's speculation was verified in several laboratories immediately. Experiment result was fission of uranium atomic nucleus could release 2-3 neutrons. This result served as a substantive proof for "chain action". The verified "chain action" indicated that nuclear energy would be mobilized, key for opening the door of nuclear energy were got.

However, it was still difficult for scientists to persuade the U.S. politicians to carry out research on atom bomb, for politicians totally didn't believe this "fantastic and impossible" invention. At last, scientists asked Einstein, who was the most prestigious one in scientific community to write to Roosevelt, president of the United States. Suggestions put forward by Einstein were denied initially by Roosevelt.

（III）Transgenic Technology

From ancient times, biologic hereditary was affected by nature. Appearance of human being, any animal and plant are results of natural evolution and products of biomutation over many generations. Sphinx-like figures or devils in animal forms are figures existing in mythus. Maybe no one can believe several decades ago those human beings can willfully create a species just like legendary God or the immortal, besides, they want the species to be what they like, and with the characters what they want.

But today, by virtue of science and technology, human being has been equipped with the power that only the legendary God or the immortal have. Human can create new species or change characteristics of species according to their own will, including changing themselves.

Why they hold the above-mentioned power is because the revealment of secret for biological inheritance. In the mid 19th century, Gregor Johann Mendel found that there were stable genetic factor in seeds of plant by experimenting with pea. The characteristics of species were decided by the genetic factors. In the 50s of the last century, some scientists revealed the double-spiral structure of DNA, and confirmed that genetic code of biology existed in DNA (genetic code in RNA only for few viruses). The discovery has provided imaginary space for human being to determine characteristics of species. So, a number of scientists began to devote to this.

DNA is a complicated long chain molecule, genes which can determine characteristics of life are each fragment on DNA. Each gene determines the according property of biology. For example, human being has 30 thousand to 35 thousand genes, which determine the appearance, complexion, gender, physique, character and intelligence correspondingly. The rest may be deduced by analogy, all properties of biology have the corresponding relation with its genes, changing of genes of biology can change properties of biology.

Actually, the above-mentioned discovery has identified the convertibility of biological property in theory. It is not difficult to understand. Remove the unnecessary genes in DNA molecule, and paste on necessary genes, then, transplant the new DNA molecule to a proper cell. The species which is created is the species that we need to change its property. Based on this way of thinking, monsters of Sphinx-like figures or devils in animal forms can surely be created, fruits with the taste of plum but large as an apple can be produced, or kidney bean can be grown as big as a cucumber.

If taking the above-mentioned theory as the basis, the next question is technology. It is by no measures easy to change DNA structure. DNA molecule is only two parts per million millimeters, while gene is only a small fragment on DNA molecule. How to cut and paste on such a small gene? It is a technological question that is difficult to be resolved. That is to say, core technology for recombination of DNA molecule is that finding “surgical knife” for cutting DNA molecule and “bonding agent” for bonding genes.

However, only through several years’ efforts, core technology for DNA recombination has been settled. Scientists found that endonucleases of nucleic acid with restriction can be used as “surgical knife” to cut fragment of genes; later, they found several kinds of enzymes which can be used to bonding and recovering DNA split and was called “joining enzyme”. Based on the above-mentioned research achievements, in 1971, scientists carried out cutting and bonding for DNA molecule for the first time, forming a new and different DNA molecule, thus, realizing the recombination of genes.

Evolution of a complicated creature shall be completed in at least hundreds of thousands of years, or more than billions of years. Take human being for example, based on the knowledge of evolution history, it can be dated back to over 10 million years ago when human and apes each going his own way for the first time on the road of evolution. Around 6 million years ago, apes just evolved into human being. While, for human being, it took about 50 thousands of years to finish its evolution. That is to say, it took about 10 million years for human being to complete its natural evolution. However, it only takes dozens of or hundreds of days to create a new species by using genetic technology.

In numerous myths and legends in older times, only God and the immortal can create creatures. But today, the ability of human being to create creatures can compete with God and the immortal. Just think about it, how inconceivable it is.

II. Reflecting on Cognition for Science and Technology of Human Being

The more predominate, the more distant with the mass. The most characteristic of cognition for science and technology of human being is that restriction of thought is very strong. They always doubt that science and technology can realize that. Reversely, powerful force of science and technology always overthrow all imagination and assumption of human being, and bring about unexpected surprise or blow out of the dark. Just because this common psychology, some scientists and philosopher who have an unusual degree of enlightenment are always sneered at or mocked, even persecuted.

As we all know, Einstein, the founder and a comprehensive person of modern physics, has made many scientific achievements in his lifetime. But, none of the achievements can compete with the theory of relativity, which innovated the basic theory frame of physics, resolved many questions that couldn't settle by Newtonian mechanics, as well as successfully predicted many physical phenomenons.

For example: according to analysis of Newtonian mechanics, for advancing and moving of Mercury at perihelion, it is thought that there is a new planet near Mercury. Actually, this new planet has not been found through years' of observation. But, if we make deduction based on the theory of relativity, solar gravity creates curve in space, which can give a good explanation for the disparity of 43 seconds in the advancing and moving of Mercury at perihelion. Take another example, theory of relativity predicted that, in high gravitational field, spectrum would move to the red end, which was successfully verified in later astro-observation; in addition, theory of relativity predicted that gravitational field would cause beam to deflex. Einstein has given out accurate calculation that there is 1.7 seconds of deflexion when starlight skims through surface of the sun. This precise predictable data was fully verified in later observation for total eclipse of the Sun.

The world was startled by a series of successes of theory of relativity. Judging panel of the Nobel Prize decided to grant the 1921 Nobel Prize in Physics to Einstein. But, some problems occurred when this decision was made. Due to the inconceivability of the theory of the relativity, even the most outstanding scientists could not understand it and opposed to it. The most opposed ones were scientists who have won the Nobel Prize in German. They alleged that, if the theory of relativity was granted the Nobel Prize, they would return all prize medals they have been awarded. Under the great pressure, selection committee of the Nobel Prize had no choice but make a turnabout, that is, grant the prize to Einstein as the founder of theory of photoelectric effect. The theory of relativity was always had no way of winning the Nobel Prize. Continental drift theory,

heliocentric theory and biological evolutionism which were put forward before, all met the same destiny. Why should this thing happen?

Based on the analysis for the acknowledgement for science and technology of human being, we can summarized the following two characteristics:

1. Serious Underestimate for the Force of Science and Technology

Recognition and assessment for science will always go two extremes. When we looking back at any time in history, we will find that magic effect of scientific and technological achievements become faint. The longer time of obtaining these achievements, the more indifferent we are. We took it for granted. Everyday, we are keeping intimate contact with these achievements. Just because scientific theories have revealed the essence of them, we can see through them by relying on directions of scientific achievements. After knowing the existence of earth's magnetism, it is easy to understand that why magnetic needle always points to north and south; after comprehending optic principle, it is not difficult to imagine that through combining the lens we can see places that naked eyes cannot see; when we understand the dynamics of machinery, we can imagine the automobile's operating principle easily. However, before these basic discoveries, theories and laws were revealed, all of these were unimaginable to us.

By contrast, when looking forward to the future, our recognizing attitude for science is totally different. We will always walk into a narrow domain, that is, we are very confident with the scientific achievements previously obtained, and believe that we have mastered so many things. Even though there are many unknown fields for us to explore, we will think that they are not far away from what we have mastered. So, we are restricted to weigh up the power of science and technology in the future by current views. Sometimes, even the most outstanding scientists will get caught up into the situation of self-isolation. Most scientists get into the habit of thinking that researches carrying out by them are the final truth, but actually, most research achievements are periodical ones, which will be replaced by the more advanced ones.

When Newtonian mechanics was established, hardly no one was doubtful of its absolute correctness, all regarded Newton's theory as Bible in natural science, so did the finest scientists. In the New Year's Day of 1900, Lord Kelvin, a famous physicist, delivered a far-reaching speech on the New Year's Celebrations held by the Royal Society in Britain. He said in confidence that, the mansion of science has been built up, what we need to do in the future is just patching work. But there are still two black clouds in the sunny sky, one is ether drift experiment about communication media of light carried out Michael-Molly; the other is what is so called ultraviolet catastrophe relating with radiation from a hot body. Out of Kelvin's great surprise, it was these two insignificant clouds that shocking the base of classic physics and caused a revolution in scientific community. The theory of relativity and quantum mechanics, born in this revolution, led physics from the era of Newton to the era of Einstein.

Practice has shown that Newtonian mechanics was able to explain many phenomenons in universe from a macroscopic view; while from a microscopic view, it was not able to settle many questions about inner part of atomic nucleus. It was at best a limited approximate truth, which is bound to be revised by the theory of the relativity and quantum mechanics. In fact, today's theory of the relativity and quantum mechanics are not final truth. Some natural phenomenon cannot be explained by them, subjects of scientific research in physics cannot be directed by them. So the theory of the relativity and quantum mechanics need to be developed and improved, to be revised sooner or later, maybe to be overthrown.

In the history of science, many truths that have thought to be absolutely correct have been overthrown. On the road to creating society and renovating society, we have achieved so many that we never thought before. Though we have achieved so much, we seriously underestimate future scientific and technological achievements, as well as the powerful force resealed by them.

By analyzing the past, it is not overdue to get such an evaluation, that is, recognition and understanding for science and technology of human being are still extremely shallow. Science and technology is more powerful than we have thought, maybe zillion times more than we have thought. Because human being began to devote their enthusiasm to scientific research and technological innovation from the Industrial Revolution, which was just about 200 years. But in the future, there are numerous 200-years'. During this long history of future, no one will know how many magic scientific laws will be dig out by human being, how many inconceivable technological achievements will be created. It is for sure that, we can't assess and measure contents of science and technology in hundreds of, thousands of and tens of thousands of years by today's view.

2. Breakthrough in Theory is the Key for Breakthrough in Recognition

Most of the time in the history of civilization, science and technology was isolated. Science was pure science, which was mainly theoretical research, giving focus on revealing the essential law of nature. So it was called natural science for a long time. While technology was related with craftsman, purely referring to research and innovation of techniques.

When degree of overall civilization in human society was not so advanced, it was not necessary to combine science and technology. All products, which were used in production, daily life and social demands, could meet with requirements through intuitional technique upgrading and innovation, even at the early stage of Industrial Revolution. Before the early stage of Industrial Revolution, scientific and technological achievements which were applied in practice could be imagined intuitionally, so surprise brought about by them was limited.

As for the ancient inventions in human history, hermetic art could not be explained by chemical theories; compass could not be explained by geomagnetic theory, other inventions, which could not be explained by theories at that time, were few. Those inventions were almost discovered by chance. Besides these, most inventions could be obtained through imagination and research and development. Whatever complicated and unique of these inventions, it was not difficult for people to understand.

Not long after the Industrial Revolution, science and technology were combined. Major technological inventions were not simple and intuitional things, all became more complicated and abstract. So science and technology became a united term that was hard to separate. In addition, each breakthrough in scientific theory would bring about a series of technological breakthrough, along with the appearance of a series of related scientific and technological products. It was difficult to imagine the magic effect and inconceivability of these new technologies and products for those people who didn't understand new scientific theories. For example, if we didn't deeply understand mass-energy conversion theory, it was hard to imagine that a small nuclear could release power that equaled to hundreds of thousands of high explosive; if we didn't discover theory of biological, it was hard to imagine that biological species, which could be formed in nature through millions of, or even tens of millions of years, could be produced in scientists' laboratory just in several months, or even several weeks.

So, at this time when science and technology have been combined together, each major breakthrough in recognition for science must be relied on breakthrough in scientific theories. For example, after understanding the law of electromagnetic induction in theories, scientists could associate a series of magic inventions with this theory. Electric generator, electric motor, telegram, telephone and internet were all developed under direction of this theory.

Electromagnetic wave was also discovered under the enlightenment of this theory. After understanding the existence of electromagnetic wave, scientists thought to transmits sound and image by using it, so video, television and wireless telegraph and mobile phone were invented; scientists also thought to control information by electromagnetic wave. So, space vehicle which is billions of kilometers far away can be controlled through remote control. Without breakthrough in theory, there would be no these visualizations and achievements. Meanwhile, just because of this, it was not difficult for a person, who was know a little about electromagnetic wave, even just heard about it to understand when new electromagnetic products were produced. Because there were many related products around him.

Another example, when theory of biological genetics was discovered, it was easy to carry out recombination for biological genes. So, it was not surprising when scientists put forward to cultivate tomatoes as big as watermelon; to let a frog have six legs and a monkey have two heads. Moreover, scientists can make further association based on the mastered theory of biological genetics. For example, under the condition that ethincal was not taken into consideration, human can change their genes so as to become more beautiful or uglier, smarter or more stupid.
The above-mentioned things confirmed one fact, that is, scientific theory is lighthouse that directs science and technology. Technological products which can be deduced within the scope of scientific theories can almost be developed through efforts of human being.
Correspondingly, when scientific theory realized breakthrough, things which were considered to be unimaginable could be naturally accepted by humans only that within the imaginary scope of the theory. Maybe they thought it was magic but understandable. By contrast, without breakthrough in theories, all inventions related to these will be generally considered to be impossible.

Therefore, breakthrough in scientific theory is key for breakthrough in recognition in science and technology. Basically, scientific theory can neither restrict the development of scientific technology, nor promote the development of scientific technology. Scientific theory will not only greatly restrict objective recognition of human being for power of scientific technology, but also greatly promote objective recognition of human being.

III. Deduction: Annihilating Measures will Necessarily Appear

After understanding the general characteristics of recognition of science and technology; we can make out a further description for it: science and technology is forever inconceivable, with enormous force. People at any times could not make out precise description for it, because we stand on a certain history point forever, we have future forever, which means many scientific laws have not been revealed and natural phenomenon has not been discovered. If only human being has not at the end of life, science is limitless, which is just the inconceivability of science.

We must not only admit this inconceivability, but also face it with a correct attitude. Through we are not sure how many and what kinds of scientific and technological achievements would appear in the future, we are for sure to draw a precise conclusion, that is, power of scientific and technological achievements in the future is several times stronger than that of today, which either benefit human being, or destroy human being.

Then, if we take any time in the future as a starting point, though destructive force yielded by science and technology at that time is much stronger than that of the most powerful nuclear weapon and toxin of genetic biology at present, it must not be impassable peak. Because as long as science is developing, more destructive measures are sure to appear. If science continues developing like this, the trend of more and more destructive force will continue. From this we can make a conclusion that, there will be one day when the destructive force is strong enough to destroy human being, then, annihilation Measures will be surely to appear.

Section II: Necessary Occurrence of Annihilating Measures No.2

Deduction Based on the Existing Scientific Theories

Human being has created some measures with destructive effect. However, whether nuclear weapons, genetic biology weapons or other slaughtering measures, they are not strong enough to destroy human being.

In accordance with the principle that scientific theory is the basis for instructing technological practice, is the driving force to promote development of science and technology, then, though scientific and technological measures we have mastered are not strong enough to destroy human being, can we deduce that there are scientific and technological force in nature strong enough to destroy human being? If this deduction exists, it indicates that even if scientific theory not advances any more, just by making efforts on technologies, human being will master measures of self-destroying sooner or later. When conditions are just right, annihilating force deduced from scientific theories will be mobilized.

The following are several kinds of annihilating measures, which are deduced from the perspective of pure theory and on the basis of scientific theories we have mastered.

I. Self-reproducing Nano-robots

As a measuring unit in length, nanometer equals to 10-9 meter,

i.e. one-billionth meter, this is approximately one-fifty thousandth of the diameter of a hair. It is a commonly used unit for measuring size of atom and molecule.

In 1959, Richard Feynman, a famous physical scientist and Nobel prize winner, delivered a speech titled There Are More Space in the Bottom, in which he for the first time put forward that human was able to produce a kind of molecule-size micro-machine, and he thought this would be another technological revolution in human

history. At that time, Feynman's idea was scoffed at by many people. But, scientific development later proofed that Feynman was more provident than the scoffers.

In 1981, scientists developed scanning tunneling microscope. By using it, the cognitive world of human being finally reached the nanometer level. In 1990, scientists in IBM Company wrote three letters of "IBM" on nickel substrate by moving 35 xenon atoms one by one, which indicated that nano-technology has achieved the goal of moving single atom.
Most substance around us exists in the form of molecule, which is made of atom. If we can move atom freely, it indicates that we can changing wastes into valuable, turn the foul and rotten into the rare and ethereal. For example: if we move carbon atom and change it into diamond, diamond will be easy to obtain; if we select the gold atom in low-grade gold mine one by one, gold will not be so expensive.

However, it is no practical sense that to realize the goal of nano-technology by combining manpower with delicate instruments. Because a needlepoint-size thing would consist of hundreds of millions atoms. It is worthless even though all these atoms change into diamond if a man move this atoms in his whole life without a moment's respite by using instruments. To realize the attractive goal demonstrated by nano-technology, we must turn to nano-robot for help.

Scientists conceive of manufacturing a molecular-size robot, which will be specially used to remove atoms to realize the goal of human being. This kind of robot is called nano-robot. After conceiving this, scientists have further visualization for development of nano-robot, for example: let these nano machines into blood vessel of human body to clean cholesterol depositing in venous vessels; use these nano machines to trace cancer cells in human body to kill them when the number is small; let the nano machine immediately change the grass to bread; change the recycled ferrous waste to brand-new and top-grade sedans at once. All in all, future of nano-technology is fantastic.

There are even more fantastic things. When carrying out research on nano-technology, scientists found that this technology can change properties of materials. In 1991, scientists discovered carbon nano tube during the process of researching C60, diameter of which is just several of or dozens of nanometer. It was called the King of Nano Material because of its excellent functions. Therefore, scientists thought it would be helpful to use this material to manufacture nano-robot.

Later, scientists discovered a kind of molecular motor, which is based on the Adenosine Triphosphate (ATP). Energy of the molecule-size mini-motor is the high-performance molecule of Adenosine Triphosphate (ATP) that provides energy for chemical reaction in cells. The success of molecular motor would settle the core components of nano-machine. If grafted other things on molecular motor, it could become nano-machine, which could be used as an engine for nano-robot.

In May, 2004, American chemists developed the first nano-robot in the world. It was a double-foot molecular robot, whose appearance was like a two-foot dividers. Its leg was just 10 nanometers long, which was made up of DNA fragments, including 36 bases. It could walk on the tray in the laboratory. In April, 2005, Chinese scientists also developed sample machine of robot which could be operated within nano scale. As far as the scientists concerned, the next step was to let the nano-robot to carry cargo just like carry one atom or one molecule.

Compared with the value that a nano-robot could be created, manufacturing a nano-robot was extremely expensive. It was too small. Though what it did was meaningful, the efficiency was too low. Even if a nano-robot worked hard without stopping, its workload could only be calculated on the basis of number of atom. Though number was huge, for example, carrying hundreds of millions atoms, total sum was small.

Therefore, scientists got an idea, that is, give out two instructions when programming the nano-robot, one is for the job it must done, the other is that the nano-robot should make numerous self-reproduction so as to let them help to complete the job together. Because nano-robot had the ability to carry atom, and nano-robot was made of atoms with a small number. So, it was not difficult to reproduce it. If things like this, one nano-robot could replicate ten, ten could replicate one hundred, one hundred could replicate one thousand, one thousand could replicate ten thousand…By doing so, thousands of billions of nano-robots would be replicate within a short time. So all is well with everything if the first nano-robot was produced, because billions of robots reproduced by it would complete work together instructed by human being.

However, one problem occurred, that is, what should we do if these nano-robots continued replicating without cease. Our body and the earth are composed of atoms. If the robots take these atoms in our body as their production materials, our body will be consumed immediately. If the nano-robots continue reproducing forever and never, the earth will be engulfed soon. If these robots are taken to other celestial bodies by cosmic dust, they will also be engulfed. It is a terrible thing.

However, scientists are confident that they can control this disaster. They believe they are able to design a program that make the nano-robots to destroy themselves after reproducing several generations, or design robots which can only make self-reproduction under certain conditions. For example: if these robots are specially used for modifying wastes, they can make self-reproduction only under the condition with wastes, and can only use wastes to make self-reproduction. They can’t reproduce under other conditions, or by using other materials.

Though the idea is good, it is too idealized. Some more rational scientists question this idea by putting forward that what shall we do if program of these robots are fault and they can’t stop making self-reproduction? What shall we do if scientists forgot to designing program for controlling self-reproduction? What shall we do if some utterly conscienceless or abnormal scientists deliberately not adding this controlling program when design nano-robots so as to destroy mankind and the earth? If any of the above-mentioned possibility happens one time, it means human race will be extinct, the earth will be destroyed.

Bill. Joy, chief scientist in Sun Microsystems, is a world-renown scientist and is second to none in the computer field. In April, 1999, he pointed out that, damage of nanotechnology may be bigger than nuclear weapons if it is not used appropriately. If the reproduction of nano-robots is out of control, it will become cancer which can engulf the whole universal. No one can assure that nano-box will become Pandora's Box for billions of nano-robots make continuous reproduction, human race and the whole world will be destroyed.

Anyone can understand a reason that one hoppergrass will do nothing; billions of hoppergrasses will destroy the world. If nano-robots which can make self-reproduction will be really produced one day, the end of mankind is around the corner. At particular, when human being master the technology of how to develop self-reproducing nano-robots, if some vicious scientists have the intention to destroy human being, they will try by every means to design nano-robots which can not only make self-reproduction, but also can make rapid transmission through wind, cloud and fog. Undoubtedly, it is the day that human being will be extinct.

In fact, the day when human can completely master this technology is not far away. We have never stop researching for nano-technology including nano-robots for its attractive future of practical application, especially several science and technology developed countries have invested tremendous vigor into the research.

II. Pushing the bigger Miniplanets to Impacting the earth

65 millions years ago, a miniplant with diameter of 15 kilometers impacted the earth. Huge energy released by it equaled to 10 billion of atom bombs exploded in Hiroshimaken, Japan. The impact caused substance of crust and mantle of the earth billowed into the sky. Rain of lava poured in a large scope. Large quantity of fragments blocked the upper sky of the earth, causing the earth in darkness and coldness for a long period. Many scientists believed that it was this impact that resulted to the extinction of dinosaurs.

Based on the calculation of scientists, human being will be extinct if a miniplant with the diameter of 100 kilometers impacts the earth. Then, do we have the ability to pushing such a miniplanet to impact the earth by relying on the force of science and technology?
In the solar system, miniplanets mainly concentrate on the asteroid belt which lies between Mars and Jupiter. Among hundreds of thousands of miniplanets, some of them with diameter of more than 100 kilometers. If we can push one of them to impact the earth, the whole ecology on the earth will be destroyed so as to cause the extinction of human being. Then, based on the existing scientific theory, is it possible to make out such a deduction?

If we want to push a miniplanet to impact the earth, the first condition is that we can get close to a miniplanet.

There have been 40 years when the first manned spaceship was launched into space, nowadays, human has landed on the moon, and unmanned space flight unit has flied out of the solar system. It is just a matter of time for human being to extend to more remote space. At the early time, space ship was launched to space only by using rocket (at present, rocket is still commonly used). However, rocket can be used only once, the cost is very high, and it is not convenient to operate. In order to saving cost, Americans developed space shuttle which can travel to and fro between space and the earth many times, and can send space ship into orbit of outer space. Though today's space shuttle can be used many times, the procedure of blasting off is complicated, flying speed and distance is limited.

Just like a driving a common plane, which can start off anytime, manned spacecraft flying to Mars, Jupiter, and Saturn or even further has been visualized by scientist. It is no doubt that this goal is sure to be realized. Then, it is reasonable that installing nuclear-power or solar sail on this spacecraft and continuously fly hundreds of millions kilometers. That is to say, based on the existing scientific theories and technological measures that have mastered, the first condition for pushing the miniplanet can be realized.

The second condition is whether can push the miniplanet to precisely impact the earth.
If the miniplanet is 2 hundred million kilometers away from the earth, just a slight deflection on angle, the distance for it to reach the earth will be greatly changed. So, it can be done with great ease that deflects the orbit of the miniplanet by the powerful force of nuclear weapons. In fact, it is not difficult to push the miniplanet, but it is not easy to push to precisely impact the earth, which need to make revision for its path.

Furthermore, many times of revision is requested. In order to realize this goal, the best solution is carrying several nuclear bombs on one spacecraft so as to revise the flight track of the miniplanet anytime.

Today's nuclear weapon is very heavy, but fission fuel which really takes part in the reaction is not much. The main weight is on devices for nuclear start-up. At present, every country is making great efforts to the miniaturization of nuclear weapons. From the perspective of the future, we can imagine that a nuclear explosion device, which is ten times than that of atom bomb of equivalent weight in Hiroshima, is just thirty or fifty kilograms. Guided missile which has been improved is not only lightweight but also precise. A guided missile launcher with precise positioning is at best one hundred kilograms. Therefore, a spacecraft can carry dozens of or even hundreds of nuclear devices which is launched by guided missile.

As for the miniplanet to precisely impact the earth, it is reasonable to imagine that calculating capability of the intelligent computer in future is amazing (such as quantum computer or photon computer). It can be precisely calculated that a nuclear bomb with how much equivalent weight exploded at which place of the miniplanet. Then, the miniplate can be pushed to a certain place on the earth to impact it. If this can be done, the operation will become easier and more convenient.

Actually, the earth has gravity. If only push the miniplanet to a certain scope, gravity of the earth will attract it automatically. Therefore, even if without precise calculation, the miniplanet can be pushed to the earth. Furthermore, by relying on the gravity of the earth, speed of the miniplanet will be continuously accelerated, thus the power to impact the earth will be extremely huge.

In the future that science and technology is continuously developed, if someone want to retaliate on human being through this measure, it is easy for annihilating human race.

III. Super Genetic Toxin

Biological weapon is considered to be a kind of weapon of mass destruction, which can cause greater damages for human life than nuclear weapons. Because biological weapons can kill life by using its biological toxin, which can propagate itself through various routes of transmission. Therefore, even a small quantity of it can cause destruction in a large scope and last for a longer time.

If the modern genetic engineering is further developed, and is used in the development of biological toxin, genetic toxin which can cause super massive death and destruction will be produced at one's will. Genetic toxin can be designed to destruction ability with various purposes based on specific demands, for example, specific toxins that can cause death of human brain or heart, failure of function of lung or kidney, or putrescence of other organs. Furthermore, the pertinency is 100% precise.

There are three major routes of transmission for biological toxin, i.e. air, food and drink, and contacting with human body. We can make out such deduction: through genetic modification, a trans-genetic biological toxin which can be transmitted through air, food and drink and body at the same time, speed of propagation is great. So far no according antibiotics or other medicines can cure it. Besides, latent period of this toxin is longer. When human being is infected at large, toxicity of it will explode suddenly, and has no medicine to cure it. If this kind of genetic toxin is really produced, it can cause annihilation of human being.

Let us turn to learn about trans-genetic technology, which is a kind of technology that makes recombination for DNA molecule of biology, removes unnecessary genes and combines the needed genes. By using this technology, human being can recombine species with different properties at their own will.

Using trans-genetic technology to kill human being is carrying out recombination for DNA of biological toxin, which can make it have stronger capacity of transmission, life-force and propagation, as well as stronger capacity of killing lethal organs of human and damaging key genes in DNA.

This technology has not only been proofed feasibly by theory of genetic engineering, but also been made various application in trans-genetic technology. Scientists have cultivated various kinds of trans-genetic biology such as bacteria, virus, plants and animals, etc. It is reported that a kind of biological agent of pyrotoxin has been combined in America. By using trans-genetic technology, people can separate DNA of this virus, then combine it with the DNA of another kind of virus. It is privately said that, only 20 grams of the biological agent can kill the 6 billion people in the world.
However, because human being lives scattered on each corner of the world, current biological weapons can not cause infection for all humans in whole. If we want to make deduction of annihilation for human being, we should take these two factors into account when modifying biological toxin:

1. The first thing to be considered is the transmission of biological toxin, which is the key for this deduction. The toxin shall propagate rapidly and possess all routes of transmission, with longer latent period. The period maybe is two or three year, during which, every one can be infected unconsciously

2. Several kinds of toxins that damage different lethal organs of human body can be applied at the same time. Any kind of the toxin can cause death after being infected with a small amount. In addition, any kind of the toxin has features of rapid propagation, extensive routes of transmission, longer latent period. This consideration is based on that the confidence level of annihilating human being is increased manifold. Even though any kind of the toxin fails to do so, other kinds of it can still annihilating humans.

Today's scientific theory is advanced enough that can totally fulfill the above-mentioned visualization. But, conditions for modification of biological toxin have not been sufficient, that is because scientists haven't known much about the information representing by each kind of gene in human body. So, they can't design a particular toxin targeting a certain lethal organ of human body to make destructive attack. However, scientists are carrying out deep research in this regard. Moreover, it is just a matter of time to achieve the goal for there are no insuperable obstacles.

The above-mentioned contents are just a few typical instances. As a matter of fact, there are still more measures to annihilating human being, which can be deduced on the basis of the existing scientific theories. For example: it can be deduced that super intelligent robots which are self-replicating can implement the program of annihilating so as to put an end to the human race. It is for sure that, intelligent robot, which is able to carry out self-reproduction, can be developed sooner or later. In addition, super intelligent robot, whose intelligence will surpass that of human race, can be visualized. If some psychotic scientists (or something is wrong with the robot, or some other reasons) make reproduction of this robot in large scale, and execute instruction of annihilating human being, it will also cause the extinction of human race.

As another example of this: It can be deduced that nuclear burning occurs in seas and rivers, which cause the complete destruction of ecology of the earth in a sudden, causing extinction of human race. This is on the basis

of theory of mass-energy conversion. Any substance contains huge nuclear energy. As far as the nuclear fusion is concerned, it is the easiest to drawn nuclear energy from hydrogen. Water molecule in sea and river is composed of two hydrogen atoms and one oxygen atom. Therefore, as long as we find according solution can we cause nuclear burning in sea and river, which will make temperature of the earth reach to hundreds of billions of degrees centigrade. If things occur, human race and other life on the earth will go for nothing. Based on the theory of mass-energy conversion, we can deduce that the overall nuclear burning of atmosphere and earth's crust, because substance making up of the atmosphere and crust contains huge nuclear energy.

To sum up, though current technological measures mastered by human race is not advanced enough to destroy them, this ability can be achieved, which can be deduced on the basis of the existing scientific theories. If we can't take effective control over the irrational development of scientific technology, these measures can be achieved sooner or later. It is just a matter of time.

Section III: Necessary Occurrence of Annihilating Measures No.3

Scientific Theory Is Necessarily to Make Breakthrough

Science can make so rapid advancement, just because scientific theory has played a fundamental role in directing the development of scientific technology. Breakthrough in scientific theory is bound to lead to a series of breakthroughs in scientific technologies, which will in turn result to more revolutionary innovation and improvement of technological products and technological measures.

Therefore, when we looking back to think over questions of self-annihilation of human race, the most worried thing is not the deduction of annihilating measures based on the current scientific theories. If we want to produce tools for extinction of human race according to the existing scientific theories, it will be so complicated and difficult to operate. It will be difficult for those people who hold vindictive attitude for human race to obtain these measures.

The most terrible thing is some breakthrough in scientific theory, especially revolutionary breakthrough, which may bring about some new annihilating measures that we can't imagine today. It must have these features: it is convenient and easy to obtain and use, and force of it is extremely huge, magic and weird.

Then, if this theoretical breakthrough is obtained, the inevitability of these self-annihilating measures is for sure, just like we are speculating today that whether human being can land on Mars one day; just like we were carrying out research ten years ago that whether we could change that cumbersome, mauser-type portable phone into today's smart and convenient one. If this moment really comes, extinction of human race is within measurable distance.

I. Cyclic Breakthrough Law of Science

First of all, let us define two terms:

1. Revolutionary truth. Revolutionary truth refers to the birth of a brand-new theory, whose correctness will nearly deny the past mainstream theories and make them become falsehood. This brand-new theory is called revolutionary truth.

Copernicus'heliocentric theory and Darwin's theory of evolution belonged to revolutionary truths, which were total repudiation of the geocentric theory and creation dominated for one thousand years. This denial made the traditional Religion and Theology no place to stand, thus completely shaking the base of obscurant control of feudalist of religion. The birth of revolutionary truth, as well as the process for people to accept it is also a process of emancipation of mind. It must exert deep and far-reaching influence on the direction of science and development of human society.

Therefore, what a revolutionary truth influenced is not only the fields it belongs to, but also every aspect of human society including politics, society, science, culture, art and economy.

2. Revolutionary theory. Revolutionary theory refers to the modification, summary, sum up of the past theories and past technologies, improve it and make it systematic so as to form a brand-new explanation and push science to a new height. This brand-new explanation targeting for scientific theory and scientific technology is generally called revolutionary theory.

Revolutionary theory is not total denial for the past mainstream theories (but it may be total denial of the past technologies), but inheritance and development. It eliminates the irrational parts in the past mainstream, and combines some richer and more practical contents. Revolutionary theory may be the overall sum up and summary for the unsystematic theories in the past, which have been eliminated the irrational parts and then improved, thus becoming an integrated and brand-new discipline.

For example, the establishment of the theory of the relativity is establishment of revolutionary theory, which doesn’t deny the past physics taking Newton mechanics as the mainstream, but inherits and develops it. So does the establishment of genetics. However, unlike the theory of the relativity, genetics makes summary, sum up and improvement for the predecessors’ research achievements, so as to make biological inheritance to be a brand-new discipline.

The establishment of revolutionary theory is bound to promote a series of revolutions in scientific technology. Just as without the theory of the relativity, there will be no explosion of atom bombs which shocked the whole world; without genetics as the basis, there will be no birth of genetic engineering in the following.

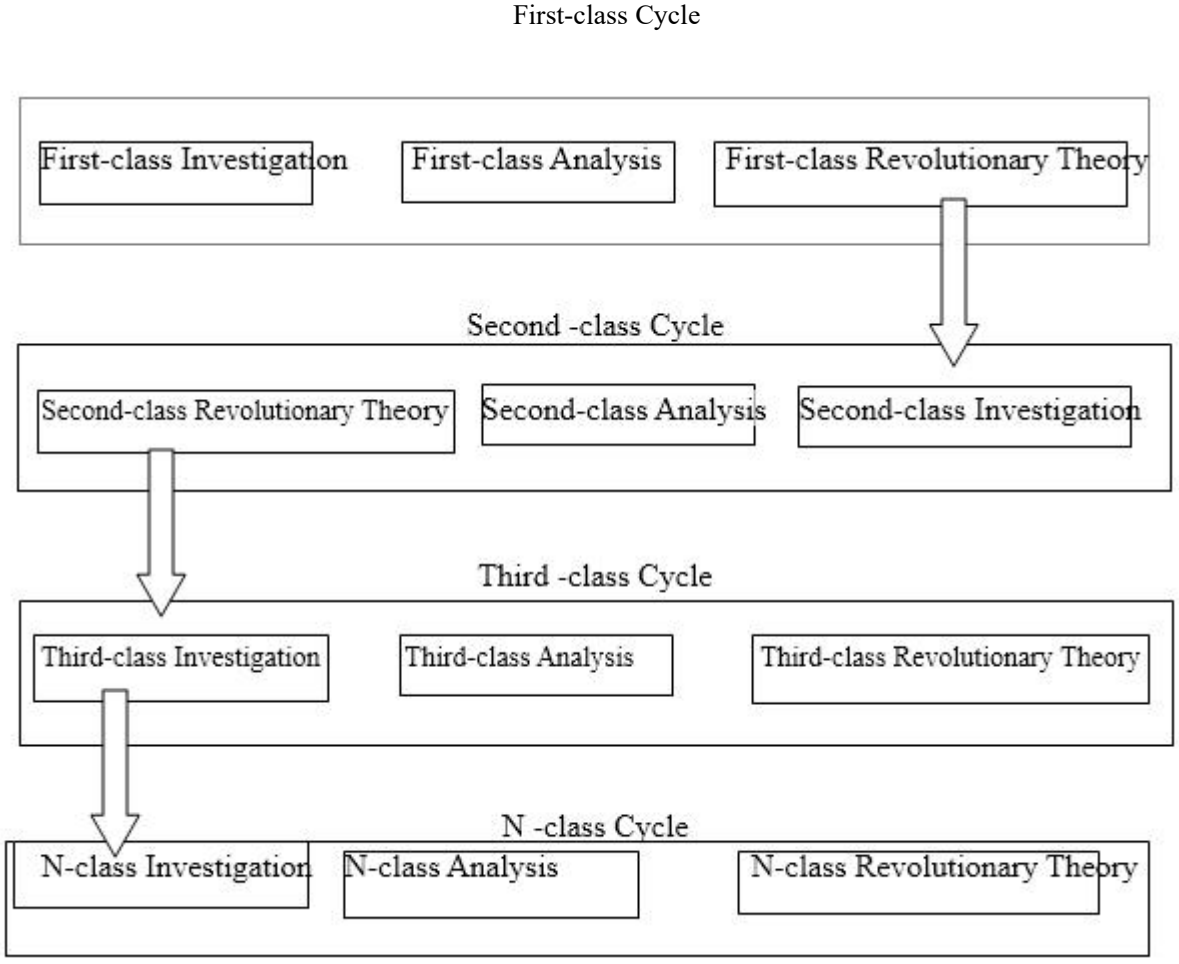
There is no subordinate relationship between revolutionary theory and revolutionary truth. Revolutionary truth may not contain revolutionary theory; revolutionary theory may not contain revolutionary truth neither. The concept of revolutionary theory puts emphasis on the theoretical achievement in a certain scientific area, while revolutionary truth focuses on the shocking power for human society.

Revolutionary theory can also be divided into major revolutionary theory and revolutionary theory of disciplines. There are many branches in modern science. Each major discipline contains many sub-disciplines, which can also be divided into many second-tier sub-disciplines, third-tier and fourth-tier sub-disciplines, and so on. Each discipline may generate revolutionary theory.

Development of science is pushed forward in zigzag way as a wave. Though we can't foretell in details what scientific achievements we will obtain in a longer time, there is regularity to conform of development of science; breakthrough in science is also in typical regularity, which is a kind of Non-linear cyclic law. It is called Cyclic Breakthrough Law of Science or Cyclic Breakthrough Law for short.

Cyclic Breakthrough Law can be demonstrated by the following Block Diagram of Cyclic Breakthrough Law. Let us make a detailed analysis for the Cyclic Breakthrough Law by combining the following diagram.

Block Diagram of Cyclic Breakthrough Law



2. The first-class cycle is the earliest process of reflecting, researching and summarizing for science. During this process, the first-class investigation is the initial understanding for nature of human being. As a kind of intelligent creature, human race can carry out reflecting and summary for this investigation, which is the earliest related scientific research and called the first-class analysis. Scientists conduct summary, improvement and systematization for this investigation and analysis, thus forming the first-class revolutionary theory.

The establishment of the first-class revolutionary theory is a major breakthrough in science; meanwhile, it indicated the completion of the first-class cycle of science. The first-class revolutionary theory will direct scientists to carry out the second-class investigation for objectives. It is needs to be emphasized that the

second-class investigation is one that be directed under the first-class revolutionary theory. In fact, it is a more rational investigation. Scientists will conduct the second-class analysis for the results of investigation. It is also rational analysis. The second-class analysis is not only under the direction of the first-class revolutionary theory, but also carry out check-up and questioning for the first-class revolutionary theory. Thus, after the second-class investigation and the second-class analysis, scientists will make modification, elimination, supplementary, improvement and systemization for the first-class revolutionary theory. Therefore, a new revolutionary theory is born, which is the second-class revolutionary theory. So far, the second-class cycle of science is completed.

As a theory that is more perfect, more comprehensive and more in-depth than the first-class revolutionary theory, the second-class revolutionary theory will also serve as direction for the third-class investigation and the third-class analysis, which is the beginning of the third-class cycle. Repetition goes on until science is pushed ahead to the N-class cycle and will continue.

3. Scientific cycle revealed by Cyclic Breakthrough Law can be classified into major cycle and minor cycle, also mother-cycle and son-cycle. For example, electromagnetism is a branch of physics. Not only the development of physics follows the Cyclic Breakthrough Law, but also the development of electromagnetism.

However, as a branch of physics, breakthrough cycle of electromagnetism is just a sub-cycle of breakthrough. Breakthrough of the first-class cycle in electromagnetism, i.e. the first-class revolutionary theory, is just a periodical result in modern physics, which can be considered as a part of analysis in the third-class cycle in modern physics.

At the same time, electromagnetism has its own branches. Compared with cycle of physics, electromagnetism is just a sub-cycle, but as for breakthrough cycle in other branch disciplines and branch technologies, it is a mother-cycle.

4. There is no stride on the road of science. The process of cyclic breakthrough is a gradual process. Each link is the basis of the later breakthrough. So, each link is dispensable, whether it is scientific theory or scientific technology.

Just because there is no stride in the development of science, we are often restricted and confused by the current conditions of science when we visualizing the future of science, thus leading to serious underestimate for super force of outbreaking of future science. We are accustomed to taking the force of today's science as a reference to evaluate the force of science in the future.

5. The sensation for scientific cycle of ordinary people and scientists is different. The former understand science through sensibility, while the latter understand science through rationality. Therefore, sensation and understanding for scientific development of ordinary people lags behind of scientists.

However, in any event, a birth of a revolutionary theory will be doubted, or even rejected by many people at the first beginning, including not only some ordinary people, but also many scientists. People are mentally accustomed to the previous mainstream theory. Compared with it, the revolutionary theory has leaps, and the span of leap often excess people's experience, which necessarily lead to the suspicion of correctness of revolutionary theory. It is a common phenomenon that revolutionary theory is doubted and attacked at the beginning of birth, which can be called disidentification for the leap of scientific development, or disidentification for the leap for short.

Most of us have this psychology of disidentification for the leap. Until now, many people still firmly believe that scientific theories mastered by human being nearly reach to limited truth. It is because the psychology of disidentification for the leap is creating trouble. While this kind of psychology is seriously affecting the evaluation for the future of science, we found a contradictory phenomenon which is seriously affecting the warning for destructive force of scientific technology in modern society, that is, people are becoming more and more hardened to the emerging achievements of science and technology. This needs to be concerned about.

When photography technique was invented at the beginning of 19th century, people should stand motionless for several hours in the sun if they wanted to take a photo. Even if that, curious people were willing to have a try. When the X-ray was initially discovered, people were surprised about that. It became a hot topic of the streets. Anyone wanted to see his inner structure in body through X-ray, including royalties. When the electric light was still on the experimental period, journalists were thunderstruck by it. However, we can see today that any invention or any new technological discovery can hardly cause such wonderment or sensation. People have seen so much. Everyday, there are numerous new technological products come into being. It will not take a long time that people will know there are new breakthroughs in which industry or which discipline. People have taken that as a matter of course.

Meantime, we can find that, the emergence of any invention in the past will draw general recognition and concern from the whole society. While discussing its wonder, people would visualize the future of this achievement, and discuss the positive and negative results brought about by it. So, benefit of the achievement for human being in the future was always analyzed thoroughly, whether it was positive or negative.

But today, people have even experienced the explosion of atom bombs and witnessed the cosmonauts landed on the moon. So even if more great scientific achievement can't cause sensation. Facing with the emerging new achievements, no one is willing to visualize and evaluate future of them under the condition that they don't cause so much sensation. Maybe some rational person will repeatedly remain the damages they will bring about in the future. But, people will have no interest in these just because they have taken for granted. It is called Development Numbness for this numbness in the whole society exhibited when accepting the achievements of scientific technology.

There is another factor for the Development Numbness. Generally, people who evaluate the security of scientific technology are scientists. People who evaluate the security of a ceratin research project or a certain scientific achievement are the scientist himself who are carrying out this research, or related researchers. If the evaluating result for this project and this achievement is positive, it will bring about many benefits, including: advancing the identity and status of the scientist; benefiting for them to get more research funds and more private economic returns after they put the achievement into production and application. Influenced by profitability of human, scientists will often deny or trivialize the disastrous effect of the researching project and achievement.

Meanwhile, enterprises (including research institutes and schools) that are financing the research also hope that they can get returns form this research project and scientific achievement. So, it is natural for them to pretermit, even ask or encourage scientists to deny and trivialize the disastrous effect.

Then, discovery numbness necessarily leads to crisis numbness. When we take all scientific achievements for granted and accept them without reflecting, we will surely become numb for the negative effects brought about by the achievement. However, disaster often results from numbness. Before towering waves come, surface of

the sea is always calm, but undercurrent is flowing beneath the deceptively calm surface. When the whole society becomes numb, a destructive disaster may be around the corner.

II. Fission acceleration Regularity of Scientific Development

In today's society, we often feel that we can't keep pace with the times. We are often under the pressure that we must continue studying because we feel that our knowledge isn't sufficient. Everyday, when we wake up, we will find that most knowledge we previously learned has outdated. There are many new things emerging everyday. If we don't learn these, it is difficult to survive on society. So, we often say with a sigh that we are living in an era of knowledge explosion.

It is for sure. It is an era of knowledge explosion, also an era of science explosion. The force of this explosion will become stronger and stronger. The emerging of knowledge and science explosion is just because science is developing in a way of fission acceleration. As for this kind of development mode, we call it Fission Acceleration Regularity of Scientific Development or Fission Acceleration Regularity for short.

Fission Acceleration Regularity can be briefly described as follows: the development of science will necessarily result to the emerging of branches in each scientific theory and scientific technology, which are continuously developed by following Cyclic Breakthrough Law. When they are advanced enough, they will be subdivided again, with more new theoretical disciplines and technological classes. These subdivided disciplines will be developed by following the same law. So on and so on, development of science will be showed in a way of fission acceleration state, thus causing the explosion of science and knowledge. With time goes on, degree of this explosion will become stronger and stronger.

Take physics as an example. Modern physics mainly includes mechanics and astronomy. After fission, it is subdivided into electromagnetism, optics, thermotics, acoustics, statistical physics, particle physics, nuclear physics and solid state physics, etc., including mechanics and astronomy. The above-mentioned disciplines can also be subdivided into more second-class, third-class even fourth-class sub-disciplines as well as various technological classes.

Then, let us look back to see the current scientific branches. It is difficult to precisely calculate that how many disciplines have been subdivided, technological classes included in these braches is countless.

From the perspective of Cyclic Breakthrough Law of Science, we can see that, just because these numerous branches and technological classes are pushing ahead according to the Law, thus causing numerous achievements from major disciplines. That is because achievements of major disciplines are the total amount of each subdivided discipline and technological class. It can be indicative that when a new revolutionary theory is born, outburst energy of it will necessarily excess energy of the previous theory.

It is worth mentioning that disciplines subdivided through fission will affect and spread to other scientific fields. No one will know when a totally independent and new scientific discipline will be born. Just like biology, it is totally independent from physics and other previous disciplines and is a brand-new discipline. Under the condition that threat for the survival of human being brought about by the existing scientific discipline is hard

to guard against; it is unpredictable that how worse it will be because new and similar disciplines are emerging continuously.

Section IV: Extreme Measure is Necessarily to Be Used

I. "Three Increasing" regularities of the extreme measures

According to magnitude of the killing capability, slaughtering measures can be classified into annihilating measure, destructive measure and ordinary measure. Extreme measure refers to the most lethal slaughtering measure in an era.

Annihilating measure refers to measures which can destroy the whole human race. If it is used, there will be no man can survive, at least persons who isn't able to escape from the earth, can't survive any more.

Destructive measure refers to measures which will cause death at least thousands of, at most hundreds of billions of at one time when it is used in commonly dense areas (not places with highly dense crowd) to directly attacking people. If it is weapon specially used for killing, it can be directly called destructive weapon.

Besides the characteristic of powerful killing capacity, there are some other characteristics, such as killing scale refers to once application not many times, killing capacity is the direct attack for the crowd, not attack for other objects then indirect injury for human; in addition, this weapon of mass destruction is only used in commonly dense areas (such as buildings, trains, large-scale transport ship or squares where meeting is holding) for some common weapons can also cause mass destruction if they are used in places with huge-dense crowd.

Nuclear weapon and trans-genetic biological weapon are both destructive measures for if they are used in a place with commonly dense crowd only once, large-scale bloodshed is beyond the question.

Some other measures, which can cause thousands of, tens of thousands of or even more death, cannot be called destructive measures. For example, colliding a building by an airplane will cause thousands of or even tens of thousands of death. But we can't say the airplane is destructive measure, for what the plane collides is the building not directly attacking the crowd. It is the tumble down of the building that causes the death of people. Besides, the building is a place with high-dense population, not commonly dense place. Therefore, we can only call the event of the "9.11" terrorist attack in America, during which two airplanes collided the World Trade Tower causing death of thousands of people, a disastrous event, not can't say the plane is destructive measure.

Take another example, during the World War I and World War II, orthodox explosive could cause hundreds of billions of death, that is the result of using this orthodox explosive many times, not only once, therefore, orthodox explosive can't be classified as destructive measure.
When the destructive measures are powerful enough that can destroy the whole human race, it is finally evolved into annihilating measure. Annihilating measure is a kind of killing capacity that neither necessarily direct attack for the crowd, nor being used only once. Any measure and any applied method can be called annihilating measure if only it can cause annihilation for human race.

As a matter of fact, we can find that, a measure can't be annihilating measure if it can cause annihilation for human race by using it hundreds of or thousands of times. Because everyone has the instinct for survival (except few persons with mental disorder), and they will not wait here to let someone kill them. Besides, whether individual or group, they all have sufficient wisdom to guard against attack of various measures. It is impossible that individual and group will guard against and fight back when a kind of killing measure is used for many times. Measures that can annihilate human race by using it only several times are hard to guard against and can realize the goal of extinction of human being. Only these measures can be called annihilating measure. Obviously, what we mastered today is just destructive measures, not annihilating measures. Therefore, today's extreme measure is destructive measure.

In order to discriminate from destructive measure and annihilating measure, measures which have no destructive or annihilating power are called ordinary measures. During the majority of human history, extreme measures are just ordinary measures. It has only been 60-odd years of emerging of destructive measures (taking the explosion of atomic bomb as a signal); ordinary measure is the sole content in the name list of extreme measure in the previous history.

The "Three Increasing" regularity of extreme measure is the disclosure for the inevitable trend of development of this measure. What is so called "Three Increasing" regularity refers to that extreme measure will inevitably show increasing trend on three aspects, that is, kinds of extreme measure will become more; force of extreme measure will become stronger; people who master the extreme measure will become more. It is called "Three Increasing" regularity for short. Whether extreme measure is on the period of annihilating measure, destructive measure or ordinary measure, it conforms to the "Three Increasing" regularity.

When the remote ancestor of human race was able to walk upright, sticks and stones they used are not only for chasing game, but also for fighting and killing among fellow-creature. This kind of killing measure was the extreme measure at the time. Because the low efficiency of this measure, it was necessarily classified into ordinary measure.

From the primates that was just separated from animals to the explosion of atomic bomb, compared ordinary measures mastered by people in millions of years ago with that sixty years ago, quantities of kinds are as far apart as heaven and earth. There were only stick and stone at the very beginning, next came the stone knife, stone axe and bow and arrow, and then there were sword, blade and pike, following are roer, explosive and cannon, finally there were guided missile, tank, warship and airplane, etc. it is obvious that advancement and development of scientific technologies lead to the continuous increasing of extreme measures. Prior to entering the stage of destructive measure from ordinary measure, kinds of extreme measures are countless.

The explosion of atomic bomb, the earliest destructive measure, opened the new page for using nuclear energy in destructive war. People thought immediately that not only nuclear fission can release nuclear energy, but the outbreak force of atomic fusion would be even stronger. Thus, explosion of hydrogen bomb came later. Therefore, hydrogen bomb was called the second generation nuclear weapon. Today, the third generation nuclear weapon such as neutron bomb and shock weapon have been listed in the name list of nuclear weapons, and the fourth generation nuclear weapon has been included in every country's research program.

From this we can see, it is obvious that kinds of nuclear weapons are increasing. Though negotiations of nuclear disarmament have been carrying out continuously, the trend of increasing has not been changed.

Moreover, after genetic engineering made breakthrough, it benefited mankind; meanwhile, it was immediately used for killing, which is, getting super biological toxin by changing genetic structure of toxin of biological agent. Thus, trans-genetic biological toxin, a new term, was added to name list of destructive measures. Undoubtedly, if only scientific technologies continue developing, the trend of continuous increasing of extreme measures will not be changed.

Currently, people haven't mastered annihilating measures. But if scientific technologies continue developing, annihilating measures are necessarily to appear. Annihilating measures in the future will follow the same rule. As for the huge power of killing measures, current development process is from owning destructive measures to owning annihilating measures. After the first kind of annihilating measure is obtained, the second kind, the third kind, or even more will appear. It is indeed a very simple argument.

When kinds of extreme measures are increasing, force of them are enhancing continuously, which is the essential result of the development of scientific technologies. As for ordinary measures, from the earliest stick and stone to guided missile and cannon; as for the destructive measures, from the earliest atom bomb with force equaling one-two ten thousand of equivalent weight of TNT to the largest hydrogen bomb with 560 million tons of equivalent weight of TNT. The trend of enhancing of force is obvious. Reasons for this developing trend are simple and clear.

When force of destructive measures is huge enough, and has the capacity of destroying the whole mankind, it becomes annihilating measures. Annihilating measures have difference in force. Some need many people to operate, are clumsy or difficult to operate and need to be used many times can annihilating mankind. These are initial annihilating measures with force are not strong enough. Some measures are easy to operate, one person can use it, are easy to obtain, can destroy the whole mankind for once. These are forceful and advanced annihilating measures.

As long as human being doesn't stop the enthusiastic pursuit for scientific technology, initial annihilating measures will surely be obtained later. However, it is just the starting point of annihilating measures. With continuous development of scientific technology, more advanced scientific theories and according scientific technologies will appear sooner or later. Force of annihilating measures will be stronger. As long as human being is not extinct at that time, any annihilating measure is at best called more advanced, or more forceful measure, but can't be called the most advanced or the most forceful one. For science is developing continuously, more forceful and more advanced ones are waiting to be dig out.

With the increasing kinds of extreme measures, scope of people who mastered these measures will surely be enlarged. For as long as any extreme measure appears, there will be a batch of people who can master it. The reason is not just for that. With the development of scientific technology, it will become easier and easier to develop and produce some extreme measures under the guidance of more advanced scientific technologies, which facilitates people to obtain.

Take the destructive measures for example; research and development program for the first atom bomb in the world was called Manhattan Project, which took four years to implement it. Plus two-year's early-stage preparations, it took 6 years to complete it. It cost as much as $ 2.2 billion dollars and mobilized 5 hundred thousand people, among whom 1.5 hundred thousand were researchers. Electricity consumed by it accounted for one-third all over the country. Because it is a kind of brand-new weapon, all would start from scratch, including related research investment, therefore cost of it was so expensive.

But today, production of nuclear weapon is much simpler. Some nuclear physicists can design an effective nuclear weapon based on public materials and documents, even an ordinary college student can do so under the guidance of a totally mature theory and technology. 40 years ago, a result of a research, carried out by a related institute in America, indicated that, two ordinary college students in physics department could design the rough structure of atom bomb within three months based on the public materials in library. Production of nuclear weapon described by scientists was very simple, that is, a nuclear physicist, a metallurgist, an electronics physicist and an expert of chemical explosive can direct a group of workers to complete the assembly of nuclear weapon.

If it is said that nuclear weapon is a kind of destructive measure that with huge investment, complex production, with many restrictions and have strong supervision, so it is difficult to be mastered by individual, genetic biological toxin is a kind of destructive measure which is easily to be mastered by individual. A biologist of high level can independently develop trans-genetic toxin in laboratory with few raw material and investment, and is difficult to be monitored.

Looking into the future, at the beginning of the emerging of annihilating measure, only a small number of people or countries can master it and possess it. But with the further development of scientific technology, annihilating measures will become more and more, and easier to obtain, scope of people who can master it will become more extensive. As long as human race isn't extinct at that time, this trend will not be changed.

II. Types and Characteristics of Homicide

People who sighted the "9.11" attack on TV will never forget the catastrophic scenes for the rest of their life, after that they may involuntarily reflect on what kind of motivation drove the attackers to unflinchingly go to their death, and what kind of "wisdom" could turn the normal transportation tools like aircraft into a weapon of mass destruction, and establish such a rigorous organization and successful plan to go so far as to abduct 4 airplanes at the some time.
In fact, those who know the history of crimes and wars in ancient and modern times are very clear that, although there was no precedent as kidnapping 4 planes at one time, large-scale suicide attacks had happened more than once, and individual suicide attack had appeared in any historical period.

We know that the cannibalism actions of humanity can be generally divided into two types, war and crime. The war emerged since the formation of human society; it represents conflict between two groups that resulting in the inevitable death and injury to both parties. Wars usually shown as massive open slaughters, yet small-scale secret slaughter is also included. Crime and killing refer to the assault and battery to criminal individual or organization comprised by several people violating national laws and social justice, including both concealed small-scale killing and open large-scale killing.

The emergence and development of war and the adopted killing means are, by large extent, influenced by the character and thinking methods of the ruler who controls the direction of war with his dominant position and capacity of manipulating the overall situation, their mind state and wisdom, and the kindness and wickedness in nature character, are the biggest factors determining the property and feature of war.

Criminal homicide is the most universal and usual killing action of human society, for the evil side of human nature and huge group of humanity, inevitably, there are always people depriving others' life for various purposes.

Regularly, the motivation of criminal homicide can be divided into the following four varieties:

① For money. This type of criminal is for the purpose of money and property of the victims, robbery, homicide, kidnapping and murder are all included.

② For revenge. This type of criminal is committed for people's deep hatred of someone. They hate some people so much that they want them die.

③ For special tasks. This refers to the criminals subject to the command of certain organization to kill the designated person. In such cases, the organization behind is the prime criminal, maybe organization with background of government , ethnic group or religion, etc.

④ For abnormal mentality. These criminals are insane in mind, some are tampered by cult, or suffer from psychiatric disorder or metal disease, which make them take murder as a kind of fun and enjoyment, or latent responsibility and duty. They kill for the sake of kill, some are conscious, some are in hallucination when killing other, and all the victims are innocent.

And there is another kind of metamorphic killers who tortured by contradictions and frustrations in life, or processed by feeling of hatred of someone, and their grievance force them to retaliate against certain group or the whole society, country, nation, religion or the humanity, they kill the innocent to release their resentment.

It can be obtained from studies on the killing cases that there are normally two kinds of motives behind the murder crimes, homicide for task and for abnormal mentality seldom happen, but large in scale with severely terrible effects on society, the criminals have no rancor against the victims, they don't even know each other.

The homicide is sorted in criminology by another approach, and two types of criminal homicide are identified as the most dreadful and harmful to the society. One is series homicide referring to frequent manslaughter in a period which causes a great deal of casualties. For example: the 2002 sniper attack in US, the criminal killed several people in a number of days with foresight-equipped firearms, the whole country were overwhelmed in panic, regular life and works were seriously disturbed; in 2007, Russian police arrested a man who killed over 60 people, mostly were elders, in several years; between 1981 to 1986, a criminal in Taiwan intermittently killed near 20 people, people on the Island were living in fear, police and the local authority were driven crazy. There are all cases of series homicide .

The other is collective homicide referring to one-time crime caused multiple casualties. The "9.11" attack is a typical case, more than 3000 people being killed, the whole world were astounded, and by which the later wars in Afghanistan and Iraq were directly or indirectly touched off; and the bombing homicide in Shijiazhuang of China in 2001, the criminal exploded a residential building at night when people were in sleep, hundreds of people were killed, the whole country was in shock, and the central government had to mobilize police force throughout the country for investigation and capture. These are cases of collective homicide.

The common causes of either series or collective homicide are psychopathic problems and task execution. All the above cases except the “9.11” attack were arose for psychopathic killers who either killed for fun or revenge to the society, the victim are normally innocent people. The “9.11” attack is task homicide plotted by al-Qaida which was identified as the largest terrorist organization in the world.

It is found through the psychological analysis that evil thoughts can urge a man lose his head and go to all lengths. Some criminals’ homicide behaviors without any scruple were manifested as open homicide, they would not cover up after killing, on the contrary, they confessed what they’d done, even to the police; some other criminals made extremely light of their life, they attacked others at the cost of killing themselves, or commit suicide after killing, death is not frightful for them; some not only neglected their own life, but stretched the evil hands to their families, parents killing or being killed by their children, sisters and brothers murdering each other, homicides like this are nothing new around the world.

Some evil cults instigated their follower committing suicide together; they preached suicide as a kind of relief, and a sacred goal to pursue. For example: in November of 1978, the founder of U.S. evil cult People's Temple agitated the believers for suicide, 900 in total abandoned their life, including a member of congress, but the founder deceiving all his followers ran away. In October, 1994, the founder of Solar Temple based in Geneva directed three collective suicides in Switzerland and Canada, 53 in total were dead including himself.

There are many cults encouraging people to sacrifice their life to be free, large-scale suicidal affair planned by cults happens in every several years, which can be fundamentally diagnosed as metaphrenia type of criminal.

III. Inference: radical means will inevitably be used.

The so-called radical means-the most advanced killing methods will be inevitably used, even if they may not be used in the near future, but in the long run, they will be sooner or later put into use. The consequential use of extreme means here doesn’t mean that all of them will be adopted, but at least one of them will definitely be used someday. As what we are working on is the subsistence of the entire humanity, the final stance of the work is the inevitable utility of extinct means, because for just once being used, the human species will be completely and entirely exterminated.

(1) There are radicals at all times.

In every period of human history, there are groups of people processing different killing motives and committing killings all the time, they might give rise to a war or a crime, and have their own distinctive expectations towards the killing behavior, the expectations can be divided into two major types with three situations based on their features.

The first type is limited killing which means the number of people being killed, comparing to the whole humanity, is limited, the killers don’t want to exterminate the mankind once and for all, and there are two situations:

1. Small-scale killing refers to killing actions to individual or a small number of people in a small area, mainly those by criminals with various minds, and they might be happened in war slaughter.

2. Large-scale killing. Just as it implies, a great number of people will be killed or injured. There are two situations, one is large-scale killing with clear objectives, such as the slaughter aiming at certain groups (such as countries, ethnic groups and organization), and war is the typical killing action, as well as the task homicide and psychopathic homicide. There is also large-scale killing without clear and definite objectives, homicide are carried out for sake of killing, presented as the abnormal criminals killing for retaliation, for fun, or for more people to "go along" with them.

The second type is unlimited killing. This type of killer goes in for the victims as much as possible, and to perish together with them; or to commit suicide after killing. It is the typical killing goal which is expected by psychopath, they must either be driven by evil cult to regard death as extrication; or have the strong hatred and the psychology changes to revengeful thoughts to all of human being; or be demoniacs who are totally in a hallucinatory state.

To achieve different expected values must use through different means, as for this point, it can be analyzed concretely as followed:

Firstly of all is limited killing, in which ordinary means are enough to the small-scale killing, so the destructive means and the deracinating means are not chosen. But for the large-scale killing, they can get once for all the goals through destructive means or can use ordinary means repeatedly even pool them. In general, the war is different from crime. The war is a collective behavior so the war leaders attend to negative effects which have been born in the destruction, and they may not use them easily. But in criminal conduct, some of criminals may scruple about using the destructive means but a great number of them will not. The criminals will realize their goals through using the most extreme and damaging means which they can get including the destruction (but exclusive of the deracinating means).

With regard to unlimited killing, the killer want to touch their expected value just depend on the deracinating means, when they cannot obtain it, they must request for killing as more innocence as possible. Accordingly, their choice should be the tools which have the maximal lethality whenever possible. In other words, the killer's means is the symbol of the maximal lethality extreme means in that time; if they got that, it is sure to be the first choice.

There is an important reason for that the killer easily make the extreme means as the first choice: It is that the extreme means is at the top of killing means of that time, to use it can be the very focus of all society. That person who has the expected values for unlimited killing and somebody has the expected values for large-scale killing will figure out the extreme means firstly and naturally while they generate motivation to kill.

As seen from the above mentioned, not only there are some person who has the killing motivation in the human society at any time, but also the extreme means would be required for reaching their expected value of killing. Consequently, the killing means are acquired as the most representative, the most lethality and the most inhumane one in that period, and try going out of their ways to get it.

It is needed declare that the key point of this disquisition is human extinctions, the person who dares to sue the deracinating means should be the anticipator of unlimited killing but they must be very few of all society. Beside this, we can see that various society institutions in human society have been designed and made for reducing this type of crime. However, due to human's weakness, these institutions cannot constrain everyone to keep absolute rational and goodwill to a fraction but the social collectivities, even if there were better social

environment, better legal systems and better ethical values. So the complete social institutions just only can reduce the number of the anticipators but cannot deracinate them absolutely.

(II)The extreme means must be obtained and used consequentially by the daredevil

For the extreme means in different period, the owner may not use it but the daredevil who dare to use it may not really hold. And yet, based on the lengthy human's history, any extreme means would be gotten by the daredevil sooner or later, and some of owners would change to be the daredevil finally, no matter the destructive means or the deracinating means. It is needed explain this point, what is called the extreme means which is consequentially occupied by the daredevil refers that one of the top killing means in some age always was hold by the daredevil instead of all of them. In the same way, the owner would become the user, but they would choose one of them not use everyone.

The extreme means must be hold by the daredevil and the holder must become a user, it is two-sides of one question, the former figures that someone is eager for using the means but they do not hold it, for this they would seek it by all of ways, and on the end some of seekers would get and use it; the latter indicates that some of the legal holder would become the user after finishing manufacture. It marks the extreme means was used when any situation of two has come out.

On the part of the first question, base on history, it is an object fact that is any extreme means must be caught by the demander whatever the ordinary means or destructive means. Therefore, we can infer what will appear after new deracinating means is introduced, maybe the original production only be hold by few person and these person are not the daredevils. But with developing breakthrough of science field, there is a law of increase shows the developing trend of the deracinating means will be the following three points. The first is the varieties are increased constantly; the second is the power is strengthened continually; the last is the number of owners is augmented incessantly. So we can deduce the deracinating means must be diffuse to the daredevils. Moreover, the daredevils do not wait for the method's diffusion naturally, but try their best to search it and speed up getting it.

As for the second question, in the stage of using ordinary means and the stage of using destructive means, there must be the daredevils appear from the owners, this is the same as a basic fact. And the original destructive means, such as using of the atomic bomb, it is decided by its own legal holder.

Of course, to come from the extreme means into the stage of using destructive means, the number of legal holders is the most limited, generally they are controlled by the head of state and only the sovereign class has the legal right of use. In generally, these persons all have considerable intellect so they will not rush these means into using. Even so, there were some country leaders used these means audaciously and emotionally in history.

After analyzing the history of human society, we can see there were a great number of tyrants and fatuous kings. The dominators still are human and have the innate weakness of human. Ordinarily, they stash their sentiment deeply; but they would be more unscrupulous and more frenzied than ordinary psychopath in case their emotion was burst out. Well then if the deracinating means appeared some day, the means should be hold by few chiefs of state and some daredevils of them dare to use it. You will not be doubtful of the conclusion through history, in which many of chiefs of state destroyed everything insanely without considering for the life of themselves and their relations when they lose.

Chapter VII: Second Way for Human Being to Annihilate

The analysis of last chapter can show that the human being is sure to annihilate due to the scientific and technological developments if we have no proper measure to stop scientific and technological developments. Science and technology has the abilities to annihilate human being, while the annihilation measure will be used by some people once appearing.

Since the holistic survival of human being is very important, the more plentiful the attestation foundation of self-annihilation of human being, the better. Then we should further analyze the problem of human being self-annihilation from other aspects.

It is strictly said that any creature will be born and then dean. If the self- annihilation of human being is very remote, our present worries are unnecessary; but if this kind of annihilation is very near, this problem is sure most important one, since no other problem can be more important than avoiding human being annihilation, including environmental problem, resource problem, population problem and poverty problem etc which are present concerns in international society. All these problems are subordinate problems compared to the holistic existence of human being. So in this chapter, we will specially discuss the problem of time for human being to annihilate and research and evaluated the other relevant problems about the self-annihilation.

Section I: Extreme Measure Can't Be Cancelled

All former discussions can give us following clear realization: what extreme measure we have now is the destructive one, and we will have annihilation measure in future. Due to the inevitable use of the extreme measure, we will continuously be spoiled by the destructive measures and live in terror and pains all the time, till the day when we are all ended by our annihilation measure produced by us.

Human nature has great character: he can imagine all the good things for his dreams, but hope to be lucky for the crisis. Confronted with such gloomy result, people may think that whether any kinds of measure has a kind of anti-measure to counteract it, and whether we can find a kind of perfect measure to balance the harms resulted from the destructive and annihilation measures?

The natural principles have really cases of negative strengths to balance positive ones. Newtonian Mechanics tells us that when a force is implemented on an objective, the objective will give you a counterforce; the atomic nucleus has the positive electricity, it has the negative electricity in outer layer to balance; according to the theory of Big Bang, with combination of existence of material in natural world, scientist concluded that there must be anti-material to exist, but they really found the anti-material in late time, which is a miracle. There is combination and decomposition in chemistry; there is differential coefficient and integral in mathematics, etc.

Due to the existence of so many natural cases such as the positive and negative counteraction or positive and negative corresponding and balance etc, many philosophers and politicians are willing to produce a kind of

theory, e.g. any harmful measure is not frightening, any kinds of produced measure will meet a counteracting one. So any destructive strength produced by human being will have the corresponding decompounding and balancing strengths. Any destruction produced by science and technology will meet a counteracting science and technology to give balance. This is like a shield to defend spear, or penicillin, erythromycin and selectomycin able to cure any kinds of diseases.

Indeed, it is impossible to counteract the destructive and annihilation measures, the reasons are as follows:

Firstly, any kind of emerged measure will have a long time to produce a counteracting measure. Take the defense of toxin gene as an example, after a kind of new virus emerge, it needs a process of repeated experiments and researches to produce a new medicine. If it is attacked by toxin gene, its counteracting medicine will need a period of time to produce, and during this period of time, many people will die, and this kind of thing has occurred already.

Second, some measures won't have the counteracting ones. As for two kinds of extinctive measures including atomic weapon and toxin gene in present day, we can assume that there will be corresponding medicine produced after a period of time, but the atomic weapon has no counteracting balances. As for the explosion of A-bomb, present theoretical scientific foundation can't imagine a kind of counteracting weapon to eliminate the strengths of B-bomb. If a B-bomb explodes among people, it is inevitable to avoid the destruction to human being, unless it won't explode.

Third, the most ideal case is that each kind of measure can find counteracting measure (this kind of ideal case never exists indeed), but the research and production of counteracting measure are sure to need a period of time. With more and more extinctive measures including future ones, each kind of measure should need time to find the counteracting measures, so the time difference should accumulated and the human being will be exposed to the background of no counteracting measures in a period of long time. This can show that the most ideal case can only reduce the frequencies of using extreme measures and resulting into harms, but it can't eliminate this kind of harms. So after the extinctive measure emerges, only one time of its harm can result into the extinction of whole human being.

Section II: Involuntary Disaster

First, careless experiment

In fact the extinction of human being may be caused by careless experiments besides the use of the destructive measures by those purposeful people.

We all know that many scientific discoveries were gained unexpectedly when having experiment, so the scientific fruits are not the intended ones when implementing the experiment, which is common in scientific developments. Since the science and technology is uncertain, those involuntary discoveries may be more important than the primary defined research goals.

Discovery of X-rays, honored as three great discoveries of late 19 century, was such kind of unexpected success. In the end of 19 century, physics circle was commonly caring about the essential problems of cathode rays, so a lot of physical scientists were researching on this topic, including German physical scientist Roentgen. One time when he was experimenting, unconsciously he put one parcel of photos besides the equipments of experiment. After the experiment ended, he found that the sealed photo were sensitized, which was impossible thing in common cases. This occasional event made Roentgen think a lot, and then he repeated this experiment for many time, which proved that this was a unknown rays passed through the sealed paper, and then it was named as X rays.

Discovery of X-rays has great scientific values; its application has not only provided physics with a strong tool but also boost greatly the developments of medical technology. Roentgen was also awarded with first Nobel physics prize due to his discovery of X rays.

Penicillin was also an unexpected discovery in lab. British bacteriologist Fleming was mainly devoted into the researches of curing the cut infection. But he failed to succeed after hard works for many years. One time he found casually that the surround of fungus in the culture medium appeared a circle of blank; the grape cocci which cause the cut to infected and mattery disappeared.

Further researches betrayed that it was the fungus which killed the grape cocci, while this kind of fungus is poisonous to the material rather than leucocyte. This could show that it can be used to cure humane diseases, and Fleming named it as penicillin.

Penicillin has save many lives of sick and injured soldiers in World War Two, and became one of three great discoveries besides B-bomb and radar. It is still medicine of special effects to cure many kinds of diseases in present days, and Fleming also won Nobel Prize of 1945.

Scientific discoveries and inventions were uncountable. For example, Newton discovered universal gravitation when he casually observed that the apple fell down from tree. But not all this kinds of casual discoveries can bring benefits to human being; experiments have resulted into disasters some times.

For example, Franklin, famous American politician and scientist, was always interested in electricity, thorough observing the sound of Leyden jar and its produced bright, he thought about the thunder in the sky. He wanted to know whether these tow were the same one. In order to solve this problem, he made a kite with silk fabric, tied one end of kite with thin iron thread, and then led the thunder down, this succeeded in proving that the heaven electricity was thoroughly same with ground electricity.

In fact it is very dangerous to catch the electricity through kite, while Franklin was just lucky to avoid the electrical attack. Others were not so lucky. One year after Franklin's experiment, Liheman, a Russian physical scientist, led his student to take the same experiment, but he was attacked by thunder and died on the spot.

Franklin also almost died in one electrical experiment. On time when Franklin took an experiment of using a Leyden jar to electrocute turkey, as a result, he was electrocuted to faint. After awakening, he said humorously: "oh my god, I intended to electrocute a turkey, but almost kill a fool as a result."

There are many cases of scientific experiments resulting into disasters. Nitroglycerin is a kind of strong explosive, used in mineral exploration and road construction etc since invented. But it is not safe, since it will

go explored once shook a little or warmed up a little, and its production process is very complex. Nobel kept on the researches of the safety of this kind of explosive, and tried to simplify its production process. His younger brother was helping him.

On third August of 1864, his brother led several technicians to work with simpler way, but it explored, his brother and other 4 persons died on the spot. Nobel happened to go out and escape this disaster.

After accident, Nobel failed to give up the continuous researches on nitroglycerin, esp. its safety. He found that it could be absorbed dry with the diatomite; this kind of compound can be safely transported, so he began to research on how to improve the explosive and detonator. It explored again in experiment due to carelessness, and Nobel was hurt on whole body, but he was not dead fortunately.

The suddenness and carelessness of experiments were resulted from none-cognition of uncertain science, which make any scientists unable to safely and accurately judge the results of experiment. So some casual fruits can be found in scientific experiments while some disastrous events can also occur.

With the deeper and deeper exploration to the uncertain scientific fields, science will develop into higher and higher rank, and the scientific strengths resulted from higher science and technology are sure to be greater and greater. This kind of scientific strengths can benefit human being and also bring about destruction. When this rank reaches some certain level, it will have the ability to annihilate human being.

Unfortunately, scientist usually never take measure of annihilation human being as their researching goal except few abnormal persons, but results of scientific researches won't work according to the intention of scientist. When one scientific experiment plan is carrying on, the former goal failed to reach but the other unexpected results are available, which is completely the case some time. Such kind of experiments failed to gain effective fruits and some destruction and disasters are completely possible to occur.

Anyway, in late long process of scientific developments, with our scientific researches will go into higher rank, the energies released by fruits of scientific researches will become bigger and bigger, so it may be completely possible to give evils and sins due to the un-expectation and carelessness.

Second, careless uses of scientific and technologic products

Uncertainty is one of basic characters of science and technology, many scientific and technologic products have been produced and used in great amount, but we are not sure about its function and safety. The practices tell us that scientific and technologic products may result into serious disaster when used some time. It is lucky that the level of scientific developments is not so high in present days, but science and technology will develop further till some certain level, then human being may face the result of extinction due to this carelessness.

There are many cases of disasters due to the careless uses of scientific and technologic products: we know that destroy of ozonosphere has attracted widely attentions of whole world in present days. Since it is resulted from use of Freon, whole world is adopting unified behaviors to limit and cancel the uses of Freon.

But Freon was advocated greatly by scientists when invented by DuPont, it was even apotheosized. Freon is nontoxic, incombustible and stable, no erosion to metal material, so it is widely used in refrigeration industry

and other many fields. But it is unexpected that it is its stability that leads to the un-reverse destruction of ozonosphere.

Since the Chloro-fluoron-carbon disposed in refrigeration is very stable, it can float with air into sky, but it won't decompose in stratosphere, where it meets the strong excitement of ultraviolet which is not filtered and the chlorine in Chloro-fluoron-carbon can be decomposed, and the decomposed chlorine will react with the unstable ozone, as a result, the ozone is spoiled.

Formation of ozonosphere is result of primary cultivation for several billion of years, also the protection Deity of lives on Earth. Only a careless use of a scientific and technologic products can produce great destruction, which won't be completed with time of hundred years, this can show what a big disaster the careless uses of scientific and technologic products will result into.

Use of DDT also originated from such kind of carelessness. Muller of Swiss chemist started researches on pesticide since 1935. He uses DDT to test mosquito and insects etc. It showed that DDT has strong effect of killing insects, and this kind of compound is harmless to human being and livestock. Hence as first greatly used organic pesticide, DDT was widely used, and Muller gained Nobel Medical prize and physiology prize in 1948.

However, only ten years late, the negative effects of DDT showed, 人们 discovery after using DDT for a long time, those pests gained abilities to defend medicine, but the natural enemies of those pests have been killed, so the pests are more rampant. In addition, birds absorbed DDT when eating the pests; their eggs will have thin crust, which will result into death of child birds. So DDT has obvious harms to the biologic diversity. In the same time, human being is suffering DDT directly, after researches, DDT has the effects same with female sexual hormone, which can reduce the masculine nature of man and affect his fertilizing.

Due to mentioned series harms, DDT was banned to use by each country continuously. But since DDT is insoluble in water, its toxicity will reduce slowly, so though it was banned to use for over 20 years, the bodies of birds and human being have sometime DDT available, even the remote penguins in south pole have contained DDT it their bodies.

There are other cases including that there are some problems stay un-researched thoroughly, but they are produced greatly. This may result into the great destruction or extinctive powers. For example, combustible ice may result into such bad disaster if used carelessly.

The combustible ice is the water compound after combination of methane and water. It looks like ice, existing in the constant frozen earth layer in the bottom of sea. The bottom of sea with area of 400 million square meters, it covers 10% of total area of sea. An international judge shows that total combustible ice in whole Earth is equal to 2 or 3 times of total amount of coal, oil and natural gas of whole world, which can satisfy the energy uses of human being for 1000, so it is honored as one of most valuable energies.

But this kind of energy may give global disaster if explored carelessly. One unit of combustible ice can result into 164 units of methane, while the greenhouse effects of methane are equal to over 20 times of carbon dioxide, but it is very difficult to develop combustible ice. If one piece of combustible ice is moved from bottom to surface of sea, it will volatilize to none. Combustible ice deposit may result into leakage of great amount of methane even spoiled a little; esp. the combustible ice on the edge of land is more difficult. Once it breaks out, it will result into tsunami, seabed coast, sea water poisonization, while the sprayed methane will all enter the

gas, and the global gas temperature will increase rapidly. If some countries really begin to develop combustible ice in great amount before the researches are mature, the results maybe beyond imagination.

After a scientific and technologic product was researched and produced, scientists are usually unable to completely accurately judge its absolute safety when used. The more complex is this scientific and technologic product and higher it is in scientific achievements, the more difficult to judge its safety level. In contrast, the higher is a kind of scientific and technologic product in its scientific achievements, the greater is its ability to destruct, this kind of great destructive strengths will have ability to annihilate human being sooner or later since the science and technology continues to develop into higher rank.

So we can see that when science and technology develops enough to have ability to annihilate human being, while the self annihilation of human being won't be inevitable since some people with abnormal thinking may use the annihilation measure, the careless use of scientific and technologic products may result into human being annihilation. This conclusion can fully explain that due to uncertainty of science and technology, when the science and technology develops into some certain degrees, the uncertainty of science and technology will surely make us unable to avoid the fate of human being extinction in any measures. In order to avoid the human being annihilation, the only choice is to stop the developments of science and technology before it has the ability to annihilate human being.

A vivid parable is that there must be landmines in front, and further we go the landmines are more. These are the landmines of science and technology. If we can accurately know the position of these landmines, we can walk clear of them. But due to the uncertainty of science and technology, we don't know their accurate positions, so if we continue to walk ahead, we are sure to meet the landmines. If we want to avoid touching the landmine, we should stop going further.

Section III: Time for Human Being to Be Extinctive

Spoken essentially, as a kind of biologic species, human being has natural process of birth to death, and the natural strengths can annihilate any livings finally, including human being. According to analysis of chapter three, we can know that if we can receive what Nature offers, the human being will be annihilated after 5 billion of years. This is remote thing, so the remote disaster needs no worry.

Then, if the time for human being to annihilate is remote similarly, it needs no worries from us naturally. If the time is ten thousand years late, it even needs no further worries. But if the time is only 100 years or ten thousand years, we deserve worrying about, or we will be the great sinner in the history. We should give a serious analysis to time of human being extinction.

When the science reaches level of present days, the further technologic developments can't depend on the direct experiences to solve the problem, while the scientific theories have been guides for the technology to progress. The combination of science to technology happened soon after Industrial Revolution when the great productivity of Industrial Revolution make various kinds of industries mushroomed, but soon people discovered that technologic practices were hard to improve more without guides of scientific theories. Only guides of scientific theories can make technologic invention and innovation a kind of rational process, and

the level of productivity can improve faster and more advanced products can be possible to produce. Scientific theory has new breakthrough, people will normally explore the contents able to change into scientific and technologic products as possible as they can in the new theories.

Uncountable scientific and technologic practices can reflect this kind of objective fact: when an intermediate ranked subject has theoretical breakthrough, its produced series of scientific and technologic products can greatly change the lifestyle of people, while a big subject can change lives of whole world. These scientific and technologic products have contents of both benefiting and harming human being.

Due to mentioned causes, we can take breakthrough of scientific theory as main line to approximately deduce the time of human being annihilation.

Actually dependence of present scientific theories can deduce that the annihilation measure is sure to emerge, and the mentioned Nano robots which can be copied constantly and boost great small asteroid to hit Earth, and then result into holistic atomic combustion in sea or crust, all these are the annihilation measure and able to conclude according to present scientific theories. However, since the theoretical rank of present science is not so high, it is very difficult to research and produce relevant annihilation measure according to present level. So we need the theoretical breakthrough.

Since physics is in central position of field of Natural science, we can analyze the time for annihilation measure to occur according to the cyclic breakthrough and fission acceleration principles of science and technology with the reference of physics developments.

Fruits of Galileo are the mark of foundation of modern physics and first ranked revolutionary theories of modern physics cyclic breakthrough. According to the theory, the fruits of Galileo are sure to guide great developments of science and technology, humane society hence will change greatly. But it is not the case. The birth of this fruit failed to result into compound and comprehensive effects to humane society, because the birth of Galileo fruits was 1.5 centuries before Industrial Revolution when people failed to realize to utilize the scientific theories into technologic practices. This fruits failed to immediately develop into series of scientific and technologic products and boost the long-term developments of technologic practices, but this won't show that first ranked revolutionary theories of modern physics have no great powers.

Newton mechanics is second ranked revolutionary theory of cyclic breakthrough of modern physics; after its foundation, its effects to human being world are obvious. This kind of effects cover many aspects, one most obvious one is the guide to the technologic practices. In aspect of practical guides, it is Newton mechanics that boot the further developments of Industrial Revolution, while the further developments of Industrial Revolution were unimaginative without Newton mechanics. The named second Industrial Revolution refers to the stage for the combination of scientific theories and technologic practices; this is a stage when Industrial Revolution has the explosive strengths. In this stage, among series scientific theories with most important guiding effects to technologic practices, Newton mechanics is sure the most important one.

But the guiding effects of Newton mechanics to technologic practices and essential effects to humane society can't show immediately, there is a time difference of about 100 years. One cause is that there is a process for the theory to apply to practices and any theory needs time difference to implement its guiding effects; in addition, when Newton mechanics was founded, the idea of applying theory into technologic practices failed to

be widely received. Though Industrial Revolution occurred half century after Newton mechanics was founded, people failed to realize the significance of combining science to technology till several dozens years late.

When we clearly see the profound changes of Industrial Revolution to humane society and fact of wealth produced by human being in these over 200 years had exceeded many times of total wealth produced in all former time, these can show that Newton mechanics and even revolutionary theories of field of physics can result into so great energies.

Relativism and quantum mechanics is the third ranked revolutionary theory of modern physics, this theory emerged in early 20 century. Since the scientific power of this theory is very great, so it is hard to move this kind of power. However, with mark of exploration of B-bomb, the third ranked revolutionary theory spent only about 40 years from birth to successful application, because people obviously realized the importance and possibilities of scientific theory to apply to technologic practices. Hence they devoted great passion to each aspect of scientific theory to applying in technologic practices, while people dared to invest in this aspect due to the obvious and unified realization.

The great power of three ranked cycling of modern physics can be clearly shown with only two examples: firstly, footprints of present human being have been on Moon, and the plan of walking on Mars is in preparation, while the spaceflight machines without humane driving has flied out of solar system and into deep place of universe. All these are in myth in old time. Secondly, present one h-bomb has power equal to TNT of over 56 million tons. What is this like? It shows that the power of one bomb is equal to that produced by explosive loaded in 1 million trains (they can surround one circle of Earth). The gaining of mentioned scientific and technologic fruits are mainly depending on relativism and quantum mechanics in aspect of main guiding theories.

According to mentioned analysis, if fourth ranked cycling of modern physics can have breakthrough, its technologic products guided by the revolutionary theories can easily result into annihilation measure, it is natural. The cause if that the three ranked revolutionary theories will result into the scientific and technologic products with strong destructive powers, which has the power nearly to annihilate human being. In addition, according to three ranked revolutionary theories, they can actually produce relevant annihilation measure, but it is technologically difficult to research and produce the annihilation measure guided by three ranked revolutionary theories, we can’t judge whether it can produce, but it is sure to produce.

Then, as a subject in the central position of natural sciences, physics of four ranked revolutionary theories has greater power than that of three ranked, which can add to abilities till it can annihilate human being.

Then how long will four ranked cycling of modern physics can have breakthrough?

It was not more than 100 years from foundation of first ranked revolutionary theory with representative of Galileo physics to second rank of Newton mechanics in modern physics. It was not more than 200 years from second ranked to three ranked.

Hence we can predict the cycle of fourth ranked modern physics according to these. Any scientific theory should need time to have breakthrough, it is process of uncountable scientific and technologic fruits to continuously accumulate and results of uncountable scientists to work hard for many years. The revolutionary

theories of fourth ranked is much profound than that of third ranked, so the intermediate fruits needing by such kind of revolutionary theory is more than that of third revolution, and it naturally needs long time.

However, our thinking should not be so independently on problem. We know that scientific accumulation will show the principle of fission acceleration. With the further scientific and technologic development, science and technology is continuously forming branches, and the separated scientific subjects and technologic types are continuously detailed separated, and each scientific subject and technologic type have employed a group pf scientists to work in researches and develop according to principle of cycling breakthrough and continuously produce the fruits. Hence the accumulation speed of fruits of science and technology will be surely faster and faster, which supports the requirements of superior ranked science, so the scientific fruits will need more to accumulate and more time is needed.

Physics developments are following mentioned principle thoroughly. But we should consider character of modern physics in four ranked cycling breakthroughs. The relativism was founded one hundred years ago, with reference to former cycling period, it is natural for the four ranked cycling to realize after 1.5 centuries. With consideration to the time of theory to apply to practice, we can conclude as follows: annihilation measure is sure to result into with time of no more than 200 years.

The mentioned deduction is very conservative, for several obvious elements fail to include. According to present scientific theories, the deduced annihilation measure will emerge before further developments. In addition, scientific theories and science and technology are realizing breakthrough in other subjects and types. While the fields out of physics are mostly possible to result into annihilation measure, just like that present destructive measures of atomic weapons results of physics, but the gene poisonous elements are that of biology, so annihilation measures in other fields are sure to result into within 200 years.

The earliest annihilation measures are probably mastered in hands of countries, or several kind persons. But the principle of extreme measure“ three addition” tells us that with further scientific and technologic developments, the types of annihilation measure will become more and more, while the fields of mastering annihilation measures will become wider and wider. In addition, the types of annihilation measures will be mastered more and more by groups such as countries, but then develop into being mastered by individual, and sooner or later they will be mastered by person daring to use them.

In the same time, if the science and technology is still developing, after development ranks of scientific theories reach relevant level, the supported scientific experiment and scientific and technologic products are similarly possible to result into casual annihilation disasters. Careless experiments and uses of scientific and technologic products may result into human being extinction, it is as risky as using annihilation measure on the human being, so when the annihilation measure appears, its annihilation powers are possibly emerging at any time. This kind of power will possibly explore, which is our concern to some people with mental disorders, they may use these measures purposely. There are scientist using casually experiments and uses of scientific and technologic products. So once annihilation measure emerges, holistic fate of human being is in dangerous, it will be very difficult to save human being.

Anyway, we can estimate a time of exploration of annihilation powers: review the use time of extreme measures in each historic times, such as the atomic weapons of present days, they are used in wars after researched out. Transgenic biological poisonous elements are not used yet, because it was just produced after

dozen of years. The mentioned measures were used soon after produced, while some were used slowly, and the time was only several dozen of years.

Of course the annihilation measure are essentially different with former extreme measures, since the user may perish together when using this kind of measure, so the rational person or person with no intention of destruction won't use this kind of measure positively. In addition, this kind of measure is comprehensively disastrous to whole human being, so when this kind of measure emerges, each rational authoritative institution may have the control abilities further stronger than other extreme measures. This is the factor for which this kind of measure is not easy to use, which this factor determines that the time to use this kind of measure will be postponed a lot.

But with the postponed time, other factors will be easier and easier to give the annihilation powers:

Firstly, with the science and technology developing into further stage, new annihilation measures will emerge more and more, and it will show following trends:① with the guiding of newer and higher ranked scientific theories, research and production of annihilation measure will become easier and easier;② under the guiding of newer and higher ranked scientific theories, the researched and produced annihilation measures will have stronger powers, while the earliest annihilation measure may need use several or dozen times to annihilate human being, while the new annihilation measure can ends whole human being when used only one time; ③under the guiding of newer and higher ranked scientific theories, the annihilation measures will become smaller and smaller and easier to be portable and convenient, esp. suitable for individual operation. It is like the earliest computer needing a big room to accommodate, but present small computer can be taken in pocket with the more computing abilities. Series of this kind of characters make the annihilation measure easier and easier to be taken and used by individuals.

Secondly, scientific theories can be utilized to the production of killing measures and the civil products. Since the science and technology is uncertain, each scientific theory can't be completely accurate and safe. When scientific theories develop till the level of supporting annihilation measure, the power of civil products produced under this theoretical guide will be similarly great. On the basic of this, if scientific theories develop further, the power it results into may be greater. So careless uses of products or careless scientific experiments may release 1% and even 0.1% of total powers, but this is enough to eliminate whole human being.

Thirdly, with the movements of time, even strength of annihilation measure is greater; it may become loose some time. But in contrary, there are bad guys who want to revenge society in any time of this world; their revenge desire won't weaken because of your loose controls to annihilation measures. In contrary, the longer the time, and the stronger the desire to revenge when the controls are loose and find the extreme measure, while there are surely some people to get the extreme measures.

Each mentioned case determines that with the shift of time, the annihilation power is easier to occur. But we still define the annihilation powers as very long, e.g. 300 years after emerging earliest annihilation measure. It can be guessed that human being annihilation will occur within 500 years.

300 years for the annihilation power to explore is an estimate, while its foundation is to consider the case of humane history killing measure to be used no more than 50/60 years when used, in equal, one kinds of extreme measure will emerge within 10 or 20 years. Considering that the uses of annihilation measure are much longer than other extreme measures, according to this ratio, we can conclude that it will cost 300 years. This

conclusion is very conservative of course, spoken simply, it just thinks about the time of earliest annihilation measure to use. Of course after the earliest annihilation measure emerged, with continuous scientific and technologic developments, there will be various kinds of different annihilation measures appearing, while these annihilation measures are easier to produce and gain and convenient to use, so its extinctive powers are surely easier to carry on. But the after annihilation measures fail to consider their extinctive power.

Totally, the estimate of human being to be extinctive within 500 years is very conservative. It has considered double conservative factors: the estimated time of annihilation measure is conservative. In addition, according to logic judge, Industrial Revolution was thing over 200 years before, when it first occurred, science and technology started on the base of almost none. After it develops till now, universal airship can send us on Moon, while modern transportation and communication technology has joined whole world into a whole, and the big-scaled computer can compute over total amount of humane brains since history of human being, and atomic bomb and the gene biologic weapons have improved several million times of destructive powers. On the base of such great power, it will develop 500 years; it is equal to double time since Industrial Revolution to present days. In this period, the scientific and technologic developments are based on great amount of knowledge and developments of advanced scientific researching measures and scientific researching ways besides the fact that the investments of materials and finances are more than total amount of early time. According to fission accumulation principle, we can know that present scientific and technologic developments are much more than those of yesterday, even two times of the time needed by Industrial Revolution, so we can see that how many fruits it can produce on the base of scientific and technologic developments.

Hence, if the science and technology continues to develop, human being annihilation will be much earlier than conservative estimate of 500 years.

Deduction of time for human being extinction gives us a very important inspiration, which is that it is time for us to adopt measures to strictly limit the scientific and technologic developments.

Appearance of annihilation measure will be not late than 200 years, and human being annihilation 500, these mean that it is not too early for us to adopt the measures to limit scientific and technologic developments. Since many scientific discoveries were casual ones, so were many technological fruits, while Nature gives us very long time, then only a few casual discoveries and gains will become great when accumulated. After science and technology has developed such level, with addition to fact that a few of accumulation to the technologic and scientific fruits can push human being into abysm of annihilation. Moreover, there are so many accumulations.

It is a regret that the limitation of wisdom of human being made us have the mentality of no affirmation and feeling of being numb to development, and human being is not conscious to their circumstances. So the great destructive power of science and technology fails to realize, as for each emerging scientific and technologic achievement and arranging scientific and technologic researching and developing project, even the elite politician and scientist fails to realize its negative effects and harms, and the adoption of the essential defensive measures is a very remote thing. Humane elites care more about enjoyments of various kinds of fruits brought about by science to human being, as for the various kinds of measures adopted; they just cure the obvious diseases. As for that the science is sure to result into extinctive disasters, any authoritative leaders fail to realize essentially.

The time to leave human being to think is not so much indeed.

Section IV: Inspiration of Extra-terrestrial: Philosophic Deduction of Self Annihilation

With generation to former analysis, we can conclude same on various kinds of perspectives, e.g. if the science and technology develops according to present state, human being is sure to be annihilated by science and technology, and the time is not too far. So if we want to save human being, we should limit science and technology to develop further.

The mentioned conclusions are based on various kinds of definite objective conditions, for example, actual case of human being and humane society, actual characters and principles of the science and technology and the science and technology developments etc. But the self annihilation of human being can be concluded from aspect of philosophy besides obvious and complete attestation with the objective conditions, while the foundation of such conclusion is the consideration to living out of Earth.

As a planet moving round Sun, Earth which we live on is part of system of Sun. Sun is in Milky Way galaxy which has about 200 billion fixed stars, so Milky Way galaxy is very common, while whole universe has about 300 billion galaxies, so we can see that how minor we are. However, Earth has cultivated human being, such kind of life with so high wisdom. Since the universe is very great, any thing of small probability can occur. So we should believe that there must be other life existing in universe besides human being.

Researches to solar system can determine that Sun is not fixed star of first generation after Universe came into shape, even not second generation. Universe was born about 1.5 billion years before, while solar system only 5. Due to the grandness of Universe, we can guess that fixed star systems of second generation should have life of higher wisdom. We can see that the fixed star system able to cultivate life should emerge 10 billion years ago. With reference to solar system, which is that human being emerged 5 billion years after formation of Sun, so we can guess that wise life has a cultivation period of 5 billion years in a fixed star system which has developed 5 billion years. With a standard of 10-5 billion years, wise life should emerge 5 billion years ago. If so, after developments of 5 billion years, life of such kind of high wisdom should have abilities to travel in whole Universe. But there are no such kind of accurate proves to prove that there were extra-terrestrial visiting Earth.

Earth is a blue celestial body with special marks in Universe, suitable for life to exist. The wise life who is 5 billion year advanced should know this. In addition, the original life appeared on Earth 3.8 billion years ago, which can show that Earth then had the conditions for life to survive. If the most attractive Earth failed to be visited by extra-terrestrial in 3.8 billion years, there are possible 3 kinds of causes: the distance between fixed stars is too far to be accessible the science and technology of any advanced level can’t realize the travel among fixed stars; extra-terrestrial got extinct before developing enough to travel out of their planets; extra-terrestrial stop continuous science and technology developments positively, they live comfortably on their own planet, so they have no abilities to travel among spaces.

As for the first speculation, chapter three and chapter four have depicted. Here we will give analysis to another perspective.

People on Earth have abilities to fly into spaces after developments for several ten thousand years, and they can fly further out of solar system after several years. In fact detector of human being has flied out of solar system, if life 5 billion years earlier than us can survive now, they are sure to have ability to travel in spaces. They may fail to visit Earth in great amount, but they can visit here in several persons. But all these failed to occur. So we should focus on later 2 possibilities.

Let's analyze second possibility; extra-terrestrial was extinct before evolving into level of traveling in spaces. But what was the cause of extinction? Was it natural power of Universe? (Such as the crash of asteroid and the devouring of black hole)?

Careful analysis tells that this possibility is not so big since a planet able to produce superior livings is sure to be stable, so the natural power of Universe should cost 100 million years to develop so much as to threat and annihilate superior livings. After developments of several hundred of million of years, extra-terrestrial is sure to be able to travel in spaces and avoid its annihilation. In addition, if there is one unlucky planet failed to survive till having abilities of saving itself, not all other planets are sure to have the same fate as this. In such a grand Universe, the planets able to cultivate life should amount to great number.

So we can only imagine that these extra-terrestrials were annihilated by themselves. We can give such a judgment as for nature of Earth: unbalanced evolvement is common principle of all superior lives in Universe. After a kind of wise life evolves, its abilities of discovering and changing Nature will spur abruptly in some time, and then have and master abilities of annihilating itself in very short time. But they can't complete the evolvement of controlling their own behaviors (that is the delay of rational evolvement lags behind creativity one), then, with the production of annihilation power, they can't control effectively the uses to this kind of power, or unwilling to control this kind of power even if they know they can, as a result, if this kind of power can be moved one time, the annihilation will happen. It is perhaps this kind of inherent power in the Universal balance that results into this; this is character of a kind of principle.

With combination to the development history and inherent characters of human being on Earth, the mentioned speculation is sure to occur. Though concept of human being came into shape over 200 years ago, human being has completed its evolvement in recent 50000 years, but since Industrial revolution of 200 years ago, human being was stepping into a period of conscious discovering and changing Nature. During this period, the world changed greatly almost in each interval of 10-20 years, while the speed of change was hundred o even ten thousand times of old time. So we can say that the world must change greatly 100 years late. Each kind of scientific and technologic fruits produced by human being will replace many things of present days, similarly, new sciences and technologies will produce unimaginable ability to destroy.

But in history of over 200 years when many changes occurred, the irrational parts of human nature failed to change a little, and no marks of changes were available. Short-sight, greedy and hatred of human being failed to improve due to improvements of its destructive abilities. That is to say, abilities of human being to change Nature changed abruptly in some certain time and become very strong, while human being has the abilities to rationally control themselves lag behind those of changing Nature, depicted from aspect of biological evolvement, that is the rational evolvement of human being lags behind of their creativity. It is this kind of lag that makes human being unable to control the uses to this kind of annihilation power when casually found

their own powers sooner or later, or during the casual or planned scientific researches may result into exploration of extinctive powers but they failed to control the limitation to scientific and technologic developments purposely. So there will be some day when human being annihilates themselves due to this kind of time difference between the abilities of changing Nature and controlling its own abilities rationally.

If this is same with extra-terrestrial and it follows same natural principle, it maybe the cause why we failed to meet them.

The third possibility is that the extra-terrestrial may positively stop developments of science and technology and avoid the fate of annihilation, but they have no abilities of traveling in spaces. And then what causes this kind of behavior of extra-terrestrial?

We can think that the extra-terrestrial may have same society as on Earth, during the process of scientific and technologic development, they are enjoying the fruits produced by science and technology and meet the destruction brought about by science and technology frequently. But with science and technology developing into higher rank, its produced destruction may become bigger and bigger. Till one day they realized after consideration that they were doomed to annihilate if kept continuous developments, so they came to themselves to stop the scientific and technologic development and found relevant institutions to guarantee the strict limitation to the scientific and technologic developments. So they stopped the developments of science and technology, and the extra-terrestrial failed to gain the abilities of traveling in paces through the scientific and technologic measures, and they are willing to live peaceful, quiet and happy lives. As a result, we on Earth fail to have chance to meet them.

Since the Universe is very grand, there must be a lot of extra-terrestrial, so the mentioned two kinds of cases are sure to happen on different planets of livings.

It is true that we failed to see the extra-terrestrial and know the planets which the extra-terrestrial can live on, so the mentioned conclusions are just relevant speculation with the philosophic thinking according to some phenomena. But they are combined with the characters of human being on Earth, although they are not absolutely true, they should be very convincing.

This subjective speculation matches completely the former conclusion, which further strengthens the attestation of former conclusion, so we can see more clearly the fate of human being and the future of humane society, and then we have clearer realization to later choices of development roads.

With analysis to extra-terrestrial, we can think as follows: in present days we have reached Moon, so we can reach Mars in middle part of this century, and many detectors of human being are flying into other remote planets from different directions, and they flied out of solar system. It seems to be positive to estimate that human being will have mastered the technology to travel in spaces soon.

However, due to analysis to extra-terrestrial, we can conclude as follows: life of superior wisdom may be annihilated by science and technology before they gain technology of traveling in spaces. If this is not the case, the extra-terrestrial would be sure to visit Earth through flights among planets. This can give a strong inspiration as follows: level of science and technology will reach the level of meeting requirement of annihilating human being before they can travel among planets. This is to say that in present days, if our

science and technology continues to develop, human being extinction will occur late and not so far. This conclusion also matches the deduced time of human being annihilation.

Chapter VIII: The Only Option to Save Humanity

Based on the comprehensive analysis above, a conclusion can be drawn through a variety of ways. That is, self-extinction of humanity is inevitable, long as we do not stop the continued development of science and technology, and even will be in the near future. It can be calculated by century, or even a short period of time. Compared with the threat from impressed forces to humanity, extinction of humanity by nature can be calculated by hundreds of millions of years. So, the real crisis of human survival is the "suicide" rather than "homicide". Facing with the grim reality of extinction soon, where is the way of mankind?

Section I Understand and Treat with the Science and Technology Correctly

I. Change the concept of extinction

Since ancient times, sense of crisis for the very survival of mankind has always been from the forces of nature or supernatural forces. We have always been focused on the forces of nature, such as floods, earthquakes, volcanoes and asteroids colliding; or the supernatural superstition as fear of the trial of doomsday by God and Allah.

However, historic change for awareness had taken place at a particular moment. It was the huge mushroom cloud rose for atomic bombing in 1945, as well as the instant of destruction of Hiroshima and Nagasaki that made people suddenly realize that the power we can mobilize to with the use of human wisdom and ability is far more enormous than we had recognized in the past. Compared with the destructive of before the forces mentioned-above, the forces of nature and supernatural we were in awe and fear of is not so important. In the unseen world, humanity seems to be on extinctive process step by step. This is not the extinction of the power of natural forces and supernatural. On the contrary, it is human beings that pull themselves in to the abyss beyond redemption.

The man who worried about it also includes those most distinguished scientists and academics. Called the Father of atomic bombs, Einstein had been appealing for that of his last years. And he published the famous Russell-Einstein Manifesto together with Bertrand Russell who is a philosopher and Nobel prizewinner. They shout in the manifesto: “Shall we put an end to the survival of humanity, or the humanity put an end to the war?”

In the view of Einstein and Russell, as we had had such powerful atomic weapons, if we did not stop the war, human survival would be threatened.

They were beyond their predecessors, because they had come to understand that if human beings did not stop some of their behavior rationally, they will lead themselves to extinction. It was beyond the concept of human extinction before. However, these two respected academics attributed the root of termination of human survival to the "war" only. Because, the possible means for human extinction they can see at that time were only nuclear weapons. And manufacture of such weapons under the conditions then required substantial human, material and financial resources. It must rely on the strength of the state rather than strength of individuals or ordinary

groups and organizations. And the state should be a huge country with very strong power. As the time when "Russell - Einstein Manifesto" published, only the United States, the Soviet Union and the United Kingdom have nuclear weapons, in their view, the one who could use those weapons were only to be countries. Furthermore, such weapons that could threaten the survival of mankind may be used only in a state of war.

50 years has passed, perhaps it is out of fear of the risk of human existence that World War III has not broken out and nuclear weapons have not been used for war once again.. However, the rapid development of science and technology has brought us into terrorist extermination much more beyond control. The destruction of humanity caused by biological toxin transformed through gene technology is so large that even nuclear weapons can not be compared; a teenage computer genius may hack into the database of U.S. Department of Defense, or create virus that can cause millions of computers paralysis; scientists are still studying nano-robot which can be copied endlessly, if successfully developed, it may have the strength of the extinction of all mankind; further development of " cloning "technology may lead us to have the ability to copy ourselves ...

In short, results created by further research and development of many of the technology are possible to produce means of human extinction, or at least means with extremely destructive to humanity. Moreover, manufacture and operation of those means will be able to require only very few or even a single person.

This means that the decision-making power for overall survival of the human has been transferred from a few large countries to a large number of human individuals. Human nature decides that the acts of each person can not always been effectively bound by however well social system. Any extreme measure will definitely be used, as long as it appears. So will means of extinction.

The explosions of atom bomb told us that it would cause humanity extinction without certain restriction on some behavior of us. And the means for extinction is the war. Now, just more than 60 years after the atomic blast, the astonishing thing brought by the development of science and technology influenced our understanding further, which makes us learn that both the war and the crime can lead to extinction. Even the careless in an experiment or incompetent users of productions for science and technology may lead humanity extinction.

In fact, the threat of extinction caused by war is not so great as that of the unexpected disaster in the crimes, scientific experiments or usage of productions of technology. The war is collective behavior. Its purpose is to destroy the enemy and conserve one’s own strength. The two sides of a war can do ruinous things to each other but not to be doomed together with the other side. So, they will allow themselves for some flexibility when using slaughter methods. While there are some others whose purpose of crime is just for humanity extinction. The methods they wish to take are those methods which can astonish more with mass destruction and ruthless means. So, they dare to use any methods they gain including means of extinction.

It is the crisis of unexpected disaster in the use of productions of technology and scientific experiment that cannot be ignored. Because of the indeterminate character of science and technology, in future of high developed science and technology, the advanced technologies will be better. Subjects studied by the scientists are challenging. The time when to call force from nature, another devastating force with more power may be called out, too. At the same time, various productions of technology may become more complex and hard to be judged with the development of science and technology. The ruinous powers of them because of improper use will necessarily be greater. When the natural forces to be called with no intention had the strength to make humanity extinct, the way of mankind is ending.

It can be seen from this that the elements of threats to existing for whole existing of human beings have developed from war only to the four factors as war, crime, false in the experiment and usage of productions of technology. And the latter 3 factors are more terrible than the war. When the strength the four forces us to the extinction way, how dangerous we will be. We will be worried about our plight, if only we take that into consideration.

Pondered more deeply, the self-extinction of us humanity can never be simply attributable to war, crime, false in the experiment or usage of productions of technology and so on, all of which only can be said as ways of extinction. The common source of these methods behind is science and technology. Only the science and technology could decide the whole existing of humanity fundamentally.

II. Restriction on development of science and technology

On most occasions, the purpose for study on one technology is to benefit ourselves. But in the meantime, science and technology may produce many negative impacts, the most one of which is the generation of killing methods unexpected. It exists independent of human consciousness. Just like the invention of plane is only for the hope of flying in the sky, but the plane were used into the war as a kind of weapon rapidly and the terrorists even kidnap it to hit the buildings; study on transgenic technology is only for the hope of changeable for genetic make-up of flora and fauna to benefit people, but it was used to the alteration of biological warfare rapidly so as to be tools for slaughter.

However, even though the nations have used science and technology first in war all the time and the development for some science and technology itself are for military use, the methods lead to extinction in the future may not be done deliberately. Because the adoption for methods of extinction means that the researcher may be ruined together except for aberration scientists and some distinct cults. So, methods for extinction should mostly appear behind continuous accumulation of science and technology unmindful. That is to say among the accumulation from countless fruits of science and technology, there will be straws finally that press down on the strong camels.

To avoid falling down of the camels is to avoid putting more straws on it. If the level of science and technology is still be that of hundred years ago, the extinction of humanity will never happen, however rapidly the development be. Restriction on the development of science and technology is the only way for mankind's salvation.

In short, tight restriction on development of science and technology should contain the following aspects:

First, the number of the strength for restriction on study of theories of natural science should be the most. If it is not certain for the Security of the theory, the research should be sealed, because breakthrough for a theory of technology must cause breakthrough theory of a series of scientific concerned technology and branch courses. The scientific power that invokes fear by that has always been unexpected. Like the cases that without theory of quality energy, there will be no nuclear weapons and without theory of biological genetic.

Second, further appliance of the theory of technology nowadays should be restricted tightly. If it is not certain for the research, we can stop it to nip the bud. That is because one technology may provide more space for further breakthrough.

Third, development of new technology should be treated as it is harmful, if we are not sure of the function of it useful or not, for the reason that the right for existing is above the right for happiness. It is much more important for one to make sure of humanity existing rather than to enjoy for some certain aspects. If the affect that a technology brings to may be fortune or harm, we should give up its development without hesitation.

Fourth, productions that have been studied out should be discussed and proved carefully to put into market against unending trouble for an indiscretion.

Fifth, it should be managed in a way that gives due consideration to the progressive course for development of science and technology. Just like many fruits of science and technology in history are accidentally discovered, the appearance of methods of extinction is unexpected results of progress of study on science and technology. But, a hint of necessity rose behind the occurrence. The recursive process of breakthroughs of science and technology is the process from quantitative change to fundamental change behind the accumulation of countless fruits of research. Though it is hard to predict exactly when and how will the science and technology begin to change so, we are sure of the one point that breakthrough of science and technology can not leap, which is like the thing that without countless physicists as Galileo to pave roads there can be no success from Newton and without countless physicists since Newton there can be no theory of Einstein. So, if one wants to prevent more deadly scientific fruits to appear, he should start with every little bit before him.

The tight restriction on development of science and technology requires constant insist. On the basis of fruits of science today, if only we loose control on development of science and technology for one-hundred-millionth or even one thousandth of time in the history of mankind for future billions of years, we may possibly do stupid things as extinct ourselves. That is because one-hundred-millionth means thousands of years and one thousandth still means hundreds of years.

In the quiet of our conscience with intelligence, the tremendous scientific and technological achievements mankind has created toady from the weak foundation of that more than 200 years ago, as well as those scientific and technological strength contained in the great achievements, even the humanity ourselves felt enough fear. Then again based on the foundation today, if the development of science and technology continue to accumulate for hundreds of thousands of years or so, we can completely make sure that mankind will inviting their own destruction.

III. Dialectical attitude towards the Science and Technology

Tight restrictions on the advancement of science and technology is total attitude towards science and technology. Also, it is unavoidable choice for bewaring extinguish calamity that may be brought by superlative development of science and technology. Not that tight restrictions mean denying positive effect of science and technology on human progress, but that we fear the extinction consequence beyond retrieve of its negative effects at the same time; also, not that it means entirely rejecting the development and application of science and technology. In fact, reasonable development and application of science and technology itself concerns the

existing and happiness of mankind. Everything has its appropriate degree, however, change comes on the heels of another. So, the dialectical understanding and application of science and technology is the premise that not only benefits mankind but also bewares extinguish calamity might be brought to man.

(1) The science and technology is cornerstone of human and their civilization

To a certain extent, without science and technology, there would have been no man. We have been on the threshold of humanity from a primate and complete the process of evolution finally, all of which are fulfilled in the Chase-running of science and technology. While struggling against nature, our ancestors learned to use fire and stone tools. This original scientific discovery and technical creation stimulated their thinking and inventive faculty enormously. So, their intellectual level has been continuously rising and cranial capacity been rapidly enlarging so as to form we humans as species with unprecedented intelligence for earth's biohistory.

The earliest human ancestors, like other animals, stood up to the test from nature in their skin. But then, they learned to make simple clothing with animal skin which can not only keep a person warm but make human ancestors come to the realization of dignity. Besides, they have learned to decorate themselves with animal teeth and nutshells threaded. All these primal inventions are the result for seeking beauty, moreover, they have driven more of the desire of beauty in mind.

In fact, science and technology itself is carrier of civilization. Domestication of animals and acclimation of plants both sign beginning of agricultural culture; application of steam engine and invention together with improvement of spinner both sign coming of industrial culture. Without so many creations on science and technology, there would have been no human civilization or its continual development to further advance.

Primitive man has had pursuit of music and art, but only to be out of instinct. After this, people found and dug out various metal or nonmetal materials. They also learned various elaborate process technology. Furthermore, the technology mentioned above continues to play a role, keeping improvement. Upon that various musical instruments which sound distinctive tone. And performance from the tune was so divine that it had an electric effect on one’s bottom of heart.

Meanwhile, invention and creation of science and technology made all kinds of greasepaint colorful, methods of expression numerous and diverse. So can our creation of art surprises the whole world and remains for long.

Invention and creation of science and technology also lead the life and survival of our species in all aspects to characteristics differing from all other species. We can feel easily that creation of science and technology made our society much higher civilized one than other species’ through our food, clothing, shelter, transportation and whole life. Thus, we humans can both be called intelligent creature and civilized creature.

Science and technology is also the messenger of human civilizations. The development of it holds forth a precise convenient mean of rapid dissemination. All the means of communication, transport and media are achievements created by science and technology. It is such achievements that promote the exchange and propagation of the cultures between the East and the West. Especially, the accuracy and promptness of culture propagation of achievements of modern science and technology is rather amazing.

So, it is the science and technology that let us off the primitive age and barbarous so as to lead us to civilization. Without science and technology, there would have been no man and human civilization. Without science and technology, we humans would have not been called intelligent creature or civilized creature.

(2) science and technology is a cornerstone for survival and happiness of humanity

The significance of science and technology for humanity lay in every aspect of human species. Human species population had reached 6 billion now. Such huge size brings such enormous materials consumption. In essential food value, total amount from any other species upon Earth is nothing near so large as 10% of that from us. Without the development of science and technology, only to rely on the foundational bounty of nature there can be no impossible to remain human survival. On the other hand, we can also imagine how would a food-short earth which made its human to suffer hunger for the reason of no development of science and technology be happiness

In the long run, reasonable development of science and technology has irreplaceable positive significance to the whole human survival, and even the decisive significance. As we know, not merely science but also the forces of nature can lead to the annihilation of the human race. Extinction led by technology only to be calculated in 100-year, while that from nature should be calculated in one-billion-year. So, we must confine the development of science and technology strictly. However, without so high development of technology nowadays that guard ability has been possesd by many forces of nature may lead to human extinction and enormous injury, there might be a recent business of that led by forces of nature. The conclusion may be considered again as tight restrictions on the advancement of science and technology.

The total survival of our species is under realistic threat from forces of nature. For example, a slightly bigger asteroid collision may lead to human extinction. But because of development of science and technology has made space technology be able to send human beings or various artificial equipments on asteroid. And explosive power of nuclear weapons or impetus of other devices has been able to decompose minor planets or change their trajectory. Therefore, we possess the guard capability of whole human survival. Thus, we could deal with problems of human survival from technology itself by main strength.

In the same way, because of revolutionary breakthrough in genome science field, we can apply possible genetic fall in future someday, only if proper development be in the right way according to existing theory in this field. And so, this human extinct element can be removed for science and technology.

So it does, in the matter of facing with the threat of forces of nature, science and technology will continue our whole survival for many billon years.

The enormous importance on ensuring individual and collective survival of human species is apparent. A typical case is the enhanced ability of resistance to disease which is due to a series of development of medical treatment and technology, especially the ability of resistance to pandemic disease. We can see clearly from the situation shown nowadays, a single malignant pandemic disease can cause death of millions so much as that billions of lives. This phenomenon turned out repeatedly in history, but hardly to turn again towards modern medical treatment and medicine technology.

It does not matter human survival, but also be in relation to human happiness. For good health and continuation of their lives are essential for guarantee for sense of happiness in heart. The average life expectancy around the

world nations has generally increased, especially in developed countries. Meanwhile, the physical conditions of humanity has improved noticeably. Both the two were attributed to technology.

When it comes to the fulfillment of value for human happiness through technology, it contributes much. In general, traffic and communication conditions have grown gradually from nothing due to development of science and technology, by which our transportation and communication easily and quickly; also, habitation and wear conditions have grown gradually from nothing due to development of science and technology, by which our daily life in every aspect be much more comfortable than before. All mentioned-above are contribution to value for human happiness.

So, science and technology not only lay the foundation for human existence but a cornerstone for the happiness of mankind. Its extremely important effect and contribution is unique and irreplaceable. The requirement of tight restrictions on science and technology doesn't mean to deny all those mentioned-above, but to show the fact that science and technology doesn't need to advance further today, for further advanced science and technology may have large positive affect, while its negative side may create human extinction.

(3) restrict science and technology scientifically and reasonably

In light of science and technology can both destroy and bring benefit to mankind, in addition, we cannot get rid of the dependence on science and technology in fact, we should take dialectical attitude toward the restriction of Science and Technology. Scientific and reasonable restriction of technology also affects the very survival and happiness of mankind.

Consider in principle, we mention restriction of development of science and technology here in order to suppress its negative side on mankind. On the contrary, the positive side to serve and bring benefit to the human should be taken full advantage of rather than restrict; respects hard to control should be limited, while safety content beyond the question should be developed to benefit humans, rather than restrict. So, in relation to the simple requirements to restrict development of science and technology, the following should be treated in scientific reasonable attitude. There are some differences of them.

First is the popularization and application of existing safety science and technology.

The restriction on technology development should not be simple requirement for restriction on technology application. Global population has been a huge degree now, and the trend of that has been continuing. There will be problems instantly for whole human survival without application of science and technology. So, we should attach great importance on popularization and application for existing safety science and technology rather than restrict application of science and technology. That could play an important and unique role in guarantee of quality of life and quantity of materials needed by survival. So, humans can live on the earth happier and longer.

In fact, if existing fruits of safe technology can be popularized all over the world, humanity can meet the requirement of ample food and clothing completely. In the case of huge countries like American, Japanese, Germany, English and French have established powerful countries relying on the fruit of science and technology; in the case of tiny countries like Luxemburg, Switzerland, Singapore and Korea have established affluent societies relying on the fruit of science and technology. Even in the case of my not rich born

country-China, the sense is rather deep. Just think, if existing fully-fledged technology can be popularized to sub-Saharan Africa, Latin America, the southeastern and southern Asia， how will heritage of humankind be？

Second，reinforcing on the research in the field of science and technology individually

Tight restriction of development of technology is a whole requirement. But, there will be many significant technology problems about survival and happiness of humans to face realistically. Some of those problems even matter whole survival and happiness of humanity a lot. It is also important to solve these problems. So, on the premise of requirement for tight restriction of technology and science, we should research on the science subjects that are safe obviously and in relation to significant problems of survival and happiness.

Typically, we should rely on forces of technology and science to keep away a natural disaster.

For example, hit on the earth by an asteroid may bring not only destruction but extinction of humankind, when it comes to an asteroid big enough. No doubt, we should pay high attention on such disaster. And, we need related research on science and technology.

Another, research on cure medicine and medical therapeutics of malignant infectious disease are subjects should be considered according to the specific conditions, because some malignant infectious disease is the most lethal form for human beings. If not be controlled in a certain degree, there will be enormous thread to survival and happiness of human beings.

But, such research must be handled gingerly to be cautious of its effect on other fields. At the same time, we may also choose the option has posed a grave menace to human definitely. Because, there are many forces of nature that may thread human's well-beings, for instance, disease, earthquake, volcano, flood, hurricane, etc. If taken careless choice of forces bring destruction knock, we will judge all threat as significant destruction threat. Finally, it will make action of restriction of development of science and technology between the cup and the lip a morsel may slip.

We should also have a full realization of that we'll have to pay for the restriction of development of science and technology. Sense of material comforts may reduce, on the other hand, scientific researches for removing the crisis of individual and collection survival can not start yet. Such as the case that many medicinal drugs cannot be studied at will. Because the very study may lead to human extinction, while manufacturing drugs for relief from disease. We have to admit that restriction of technology study is adverse for relieving the pain of certain patients. but, all above are cost for survival and happiness of an individual or a group, in contradistinction to whole human survival. The latter is obviously more important than the former.

Then, we must facing life, agedness, illness and death of any person squarely to regard them as natural law, when it comes to the choice above. Of course, it doesn't mean giving up our basic principle of humanitarianism to heal the wounded and rescue the dying. Not unnaturally, we should try best to rescue the sick and wounded. I must emphasize this rather than oppose it. But, here we only encourage treatment in the territory of science and technology. The further technology study without much cogitation should be opposed to.

In addition, study on technology in some more fields also should be considered to be limited within certain premises, such as the problem of substitutes for un-regenerate resources that has related to the issue of long

term survival on the earth. Then, it is necessary to arrange some congener research project on the premise of ensuring its security. Still, we should be very discreet at the same time to be aware of magnify.

Third, tight restriction of development of science and technology can not be made in heaven. Scientific discovery and technology creation usually can be gained either consciously or subconsciously. So, in the history of man's future eons, such subconscious achievements will be got, however tight the restriction may be. The right attitude should be that: sift through the right part that can be sure of no dangerous for human survival strictly and make more widespread. Some of the works that can not be sure of have to be imposed the stringent restrictions on.

In fact, those subconscious achievements during the several billion years may lead us to a death way, because the history is so long and intelligence of humanity is so sharpened. Even the total amount of subconscious achievements is enormous, maybe enormous enough for human extinguish. We can only expect that day will come as late as possible with restriction tighter and tighter, best to synchronous with the time space given to us. We pray still that our later generations will bee far wiser than us, so their wisdom is sufficient to find ways satisfied all sides to prevent human extinguish. But that will be happened in the very faraway future.

On the whole, restriction mentioned above must be comprehensive, extremely strict and continuously. Exploitation and study on science and technology are only behavior of careful topic selection in very few fields. Applications of science and technology then requires extensive and universal. But the achievements of that should be filtered modestly.

Section II: Preconditions for Restriction of Development of Science and Technology

With the conclusion that restriction on development of science and technology is premise for avoid human extinguish in mind, let’s analyze the issue here that whether we can achieve the goal.

I. Social formation today is National Society

Social formation of human society has three stages: primitive migrational society, village community and society of tribes then, as well as national society today.

At the very start, primitive men have been in a state of mass migrations all along. People were leading a migrational life with picking. One group didn't usually have much contact with other groups. It is the revolution in agriculture for animal domestication and vegetation cultivation that enabled us to be settled in. Upon that, villages and trips had been formed. Human social forms developed from the stage of migrations to the stage villages and trips.

Thousands of years after revolution in agriculture, countries formed. The earliest country formed about 6 thousand years ago. The national society is the third stage of human society formation which still remains today.

Nation society is the result of further development of village community and society of tribes. The formation of nation society is necessary outcome of development of human society. The depths of selfish and the length of militancy lead to conflicts among villages and trips. In order to win the war, furthermore, water project construction and project for preventing natural calamities required by agricultural production, more people need to be united. So, a country formed.

Over countless millennia of development, though human society nowadays remains its formation as nation society, but countries nowadays have undergone earth-shaking changes compared to those thousand years ago. Life today of human society is also more colorful and vivid than thousand years ago.

As an organization form of human society, the form of country today is not the only one. There are various organizations. Generally speaking, the most one should be international organizations, with the consideration of scale of organization form. The international organization is a group composed of countries. For example, the United Nations is the largest international organization. As a general international organization, there are 192 Member States in it now, which almost contains all sovereign states over the world. Besides general international organizations such as the United Nations, there are various regional and inter-regional international organizations. For instance, the European Union and Southeast Asian Union belong to regional international organizations, and G-8 belongs to inter-regional international organizations.

Besides international organizations, more are small organization forms existing in great numbers, such as apparatus of government, enterprises, associations, schools, sector of public welfare, social agency and community of cities, villages, towns and streets, etc. . These organization forms exist in every place around us. All of us are inside. Their existence is closely interrelated to life of everyone.

There is one more organization form existed in its invisible presence. It is connected by blood or belief to make everyone related believe in it silently by an intense innermost emotion. That’s peoples and religion. Each of us belongs to a people. Most of us have their religion belief. Maybe we don’t be controlled under one certain organized religion institutions and people organization units. But everyone should not deny its existence. Moreover, everyone related have an intimate and identity feeling towards the people and belief he has been in it.

It may be so, but in human society nowadays, nation is the largest organization with characteristics of most steady contact, most sacred sovereignty and the tightest organization. The formation of human society we are being in today is national society formation. As a particular organization formation, nation is the strongest as well as the most sacred and powerful system for power of modern world (because action of the country is determined by political power of the country, so we may say political power of the country is the most strongest power system of national society). Nation is the only leading force in the modern world. Any organization else is a part of the nation.

Organizations, institutions and groups at the national level go without saying on this point. Furthermore, international organizations are parts of nations actually. A nation can make decision of whether join in or withdraw from those international organizations upon its own benefit. The international organizations are

controlled under the states, especially huge countries of these organizations which are always decisive force for decision of action of organization. So, it is nation that takes a" leading role" for international organizations rather than vice versa. It’s a foundation.

People and religion are parts of nation, too. Almost all states contain many peoples and religions. While one people or religion may distribute in different countries. Though everyone has his own nationalist sentiment and religious feelings, fraternal countries of the same people always let slip the dogs of war and different countries of the same religion always flow with rivers of blood for countries interest.

The scared national authorities continue down to the present day, since 6000 years ago the time when human society formation came into the stage of national society. Though religion force had driven above national authority for some time in the interim, such as Medieval Europe when the papacy is above monarchical power, it is only a short process occurred at some time and has been history today. Though there are few theocratic states still, politicians and religious leaders in these countries more achieve the goal of ruling political power of a country with rallying point of religion. Religion still is a part of country actually.

Therefore, we can make an accurate positioning that nation plays a leading role of all actions belong to groups, organizations and individuals of his own country in the national society we are being in today; a nation judge all of its foreign behavior upon its own interest and performed various parts on world stage to control the trend of the world of humanity finally.

II. Competition of country

The inherent failing of humanity leads to action of each individual and group irrational. The adverse of irrational actions from an individual is usually limited. The damage of irrational actions from an ordinary organization and group can be not much enormous, either. However, things are very different when it comes to the irrational actions of a nation. A nation is the strongest form of power. If a nation is dedicated to something, it may mobilize all its resource and no other society force can restrict it. As a result, the destructive effect and harmful effects of the irrational action from a nation will surpass that of any other society forces.

Nations have been in a state of competition all the time, because many countries are co-existed within the world. The competition is endless. It is embodied in every aspect of national life as politics, economic, military, foreign affairs and culture. When competition aggravates the contradictions at some point, it will turn out in the form of massacre as in war. The national society has never got off this principle.

Analyzed in the view of human nature, there are two factors that can determine competition between nations:

The first one is continuous belligerence of human nature.

The continuous belligerence of human nature decided the fact that each country coexisting see other countries as its opponent since the establishment of the country. They have to catch up with and surpass the opponent in every respect. Goal of small countries to surpass is medium-sized country. Goal of medium-sized country to surpass is huge country. Goal of huge country to surpass is superpower. Goal of superpower is further distance from other countries.

Though competition among countries involves every respect for life of nation, its focus is economy and military. If only the strength of economic and military can be enhanced, overall strength of a country will be enhanced along with that. At the same time, competitive strength in every respect as politics, diplomacy and culture can be enhanced accordingly. So, any country will attached priority importance to the construction of economy and military.

The very important aspect that can decide strength of economy and military is scope of territorial, population size, national resources and so on. For example, small nation like Singapore which may win approval and respect of the world for its high level of development and civilization has no impossible to be a huge country leading affairs of the world or small areas; populous and territorial nation like Indian which is a little poor and backward cannot be negligible by anybody for its scale of country. That is why a nation hides its expansion ambition latent at bottom. This attitude goes with the state of competition. Then, the competitive way of a nation will develop to the way of territorial expansion in the process of catching up with the other and finally become a huge country or superpower. For only the way of territorial expansion can enhance the scale of territorial and population size. And only by that way can a nation own more resources. So, strength of the nation will be stronger. And the best way of expanding the territory is the war.

The second factor is extreme selfish of human nature.

It is a selfish act of expansion and protection by wars. Its most characteristic is the fact that one may take delight in other people's pain; take achievement in other people’s loss; take the goal for nation in millions of people’s deaths and injuries which are from not only people in the opposite country but also its own people. The pain is for both. But, the nation can not give up competitive for immorality of expanding and plunder. The extreme selfish of human nature roots deep in bottom of heart, which make expanding of nation unavoidable.

As to that, any nation realizes the point of unavoidable expanding clearly. So, each country is trying to prevent expanding and plunder by others. The most effectual means of that is developing economic and military. For one nation can have sufficient capacity in resisting foreign aggression, only if the strength of economy and military enhances so as to enhance the whole power of nation. Since each nation has that sense of crisis and urgency, it means anyone of them is unlikely to have the sense of security under the circumstances of many countries coexist. The sense of crisis and urgency cause each country run on and on like hell with the fear of delaying even a moment. If a nation hasn’t get others surpassed, they will surpass you. It means to be invaded and killed when your country is surpassed by others.

When the direction of national development controlled by this sense of crisis and insecurity attach certain level with development of economy and military only, a nation can feel inevitably that development of economy and military limited to its own country has been not enough to enhance national power. At such times, ways to continuous enhanced power will instinctively lead to ways of territorial expansion and plunder to foreign countries. This illustrates that country preventing itself from aggression can necessarily turn to a country invading others if only time is ripe.

Given all that, if it is to be said that national competition led by continuous belligerence of human nature is competition with initiative, then, extreme selfish of human nature will necessarily lead a nation to passive competition. Any country who doesn’t take part in such a competition will be died out. Competitions no matter initiative or passive, therefore, will necessarily walk on the way of expanding and plunder. Any country can get

rid of the rate as invading or causing to be invaded in national form of human society. No one can maintain personal integrity during chaotic times.

III. Double enhanced effect for stimulus to development of science and technology

National competition may lead to another phenomenon as firm dependence upon science and technology from a country.

The content of the competition is comprehensive strength in total. The keynote of comprehensive strength is the strength of economy and military. But, the strength of economy is basis for the strength of military fundamentally. Basis for the strength of economy need efficiency constantly improved and wealth steadily accumulated. As we know, economic efficient depends on enterprises. The enterprise is source of strength for national economy, as well as that for national power. The whole development and effective of enterprise matters the strength of national power.

In terms of current situation, the globalization of the world economy is major feature for world economic life. With further integrative trend of world economy, this feature will be more and more apparent in future rather that less. Well, what can be depended on, if we want to be a winner in competition of international markets?

In the course of long history since evolution finished, humanity has been in a state of self-sufficient all the time. The capability of adaptation and remodification is limited. We didn’t realize the power of science and technology, until the explosion of industrial revolution in the middle of the 18th century. The train was propelled by a steam engine whose power was stronger than the power exerted by thousands of horse in pulling. The plane took us to fly into the blue sky, which made humanity achieve the dream of flying in fairy tales. Television and telephone brought the images and sounds far from tens of thousands of kilometres away close to eyes. The speed of a computer is faster than that of hundreds of thousands of excellent mathematicians…Potential had never been felt more than 200 years ago was created by science and technology. So, the realization that enormous capacity of creating wealth by science and technology of people increased. Also, people made the conclusion that science and technology are the first productivity. So, competition of modern enterprise become to competition of science and technology.

As the fact that enterprise whole improvement represents the increase of the country's economic strength which make a country be able to increase funding for military simultaneously, so as to increase the strength of a country’s military and the whole strength of a country. Therefore, science and technology become the core element which can influence country's overall interests.

In fact, the development of science and technology can provide more productive means for war directly. Military has priority on the appearance of a new achievement of science and technology ever. Construction of modern national defense has already dated us out the bloody fights of the cold weapon age by the sword and spear. A modernized army needs a series of hi-tech products and hi-tech means. Furthermore, the dependence on science and technology by armies in the future will be stronger. So, the heightened action on the strength of military by science and technology not merely indirectly but also directly and significantly. All those enhance the importance of country interests by science and technology.

Since there are the same interests and requirements between countries and enterprises on the development of science and technology, the relationship will turn on characteristics as interconnected and interdependent on the development of science and technology between countries and enterprises and form logical relations following:

① The enterprise can greatly improve the economic efficiency through the study, development and application of science and technology. Only by dependence on science and technology, can not an enterprise be died out in the fierce marketing competition. As a result, the enthusiasm of study and development of science and technology by an enterprise is irresistible; ② The increase of economic efficiency of an enterprise simultaneously means the relevant increase of strength of a country. Such raising is not only embodied in the strength of economy, at the same time, it can lead the increase of strength of military directly and decide the increase of whole strength of a nation finally. Therefore, a country can achieve relevant interests through the development of science and technology; ③ So, a nation may use its source of power to support the study and development of science and technology by enterprise and to stimuli enthusiasm of study of science and technology by enterprises, as well as try every way to increase the study capability of science and technology of enterprises; ④ The further new increase of economic efficient of an enterprise simultaneously means further increase of whole strength of a country. It made a country stronger to be able to support and stimuli further study of science and technology for enterprises.

The capacity on the study and development of science and technology promotes and enhances mutually between country and enterprise. Thus, it has added infinite impetus to the development of science and technology. The dialectical fortified relationship of development of science and technology between country and enterprise here is called double reinforcement effect of boosting the development of science and technology, or to be called double reinforcement effect in short.

The double reinforcement effect is a necessary phenomenon of national society. It is necessary results of competition among supreme power under the state of many countries co-exist. Especially after the industrial revolutionary, the characteristics of double reinforcement and its trend are both more apparent. The enormous power of science and technology after industrial revolution is clearer. As the energy of science and technology become strong increasingly, the very clear trend made the country and enterprise see the importance of science and technology clearly, so as to make double reinforcement effect stronger and stronger.

Then, though the main factors for promotion of development of science and technology are country and enterprise, the ultimate liability for runaway development of science and technology is the country. While, the ultimate reason is many countries co-exist. For, as the strongest form of power for human world in the stage of national society, nation should have had one lofty duty that charge the world well with the attitude of being responsible for humanity. Any deviation from human Values should be resolutely put a stop by political power of the country. The task of safeguarding the interests of mankind cannot be completed by enterprises.

However, a country is impossible to shoulder the burden. Because if only there are many countries co-exist, human frailties can decide a fact that the relationship between countries must be competitive. And the competition often will represent in the form of wars. The war is the most bloody killing action among human community. Failure of a war will be at the expense of death of the country and race slaughter. So, any country must see the problem of coping with the threat of war and improvement of the country’s strength in competition as the most important ones. This firm attitude will never be changed.

Then, no matter competition of economy and military or whole strength of nation, the key factor is competition of science and technology. This determines that as a country who holds sovereign power in human world, it will not have the decision to restrict the development of science and technology, to the opposite, it may have endless initiative for developing science and technology. This attitude of one country will not falter, even if whole existence of humanity was threatened due to science and technology. Because whole existence of humanity is business for all in future, and the conclusion made finally needs to be thought rationally; the necessary death by failing to competition is business of one's own in short term, and the conclusion made finally only need to be thought briefly.

IV. Humanity unitary action

Restriction on development of science and technology matters many aspects and the task is long and tremendous, so it needs strenuous effort that depends on the strongest form of power for human world. Modest power can not shoulder such burden. Just like that nation is the strongest form of power in the world. It is unthinkable of action on restriction of science and technology without a country's effort.

But now, phenomenon as following is apparent in the present circumstances that there are many countries co-exist, each country acts of its own free and compete mutually. Nation, as the strongest form of power under this circumstance, is destined to fail to restrict the development of science and technology. Then, how will the condition be can us achieve our goal?

It first needs strong motive on such aspect, if the strongest form of power wants to try this. While it is not enough only to be with the sense of crises for threat of whole existing of humanity, if we want the strongest form of power produce such strong motive. In addition to this, the strongest forms of power should be made sure of the fact that the threat will not fall on themselves for any other's existing insurance or for ruling position, once they made the decision of restriction of development for science and technology; and also they should be sure of the fact that other forms of power can never destroy the rules to make them fail to succeed by one basket, even as the fact that such destructors may get more benefits.

Obviously, the strongest form of power should not be separated, if requirements above have to be met. Because the phenomenon as each country acts of its own free will necessarily bring competition and confronter, as long as the strongest form of power are separated. In such a case of competition and confronter, all the efforts will melt into nothingness.

Upon that, the conclusion can be drawn understandably: since it is not impossible to fulfill the target of restriction on development of science and technology by the separated form of power, we have to consider taking appropriate measures for concerted action of globalization.

The so-called concerted action of globalization refers to concerted action of the whole of mankind. It requires people all over the world strive together to fulfill the restriction on development of science and technology unshakably and unanimously without any disturbance within local areas. At the same time, the action for restriction on development of science and technology must be uniform and enduring. The line should not be broken through for millions of years.

In relation to the stage of human society as social formation, let's discuss further the problem of concerted action.

For nation is the strongest form of power of human society in national society, the requirement of concerted action of people all over the world is also the requirement of concerted action of each country. Every country should act up to such a principle consistently. Loss of any country is not allowed. If conduct of only one country is beyond the pale, the effect can be not merely on the fact that there will be more fruits of science and technology produced, but it will lead chain reaction so as to make each country break through all restraint. And it will become abominable like today finally.

The natural weak point for humanity decides the continuous belligerence of human nature. Competition, comparison, vainglorious and pugnacity are permanent characteristics along with human society. Well, if only one country break through the restriction on development of science and technology, it means the strength of its economy and military will be far ahead of others so as to gain a landslide victory to other countries. Once the dominant developed to a significant extent, the country will be accustomed to giving orders and being predominant, even wayward killing to other countries. It cannot be received by leaders and people of any country. From this point of view merely, no country will let the development of science and technology alone by other countries, while itself was numb.

Furthermore, if only one country break through the restriction on development of science and technology， it means the strength of its economy can be far ahead of others and the standard of living for its people can be also in the front ranks of the world. And there will be conducts of science and technology that are more attractive appearing. No matter the rise in income or appearance of new conducts, there will be green with envy for people of other countries. They will not give up easily and will require the government warmly to break through the restriction on development of science and technology. If not, they will unseat the government together. The leader for a nation will never give up his dominace instead of benefits for all.

Section III: Effort for Unitary Action of Humanity

After we have made clearly the attitude we should have on science and technology and the conclusion that concerted action should be taken to restrict on the development of science and technology, if to avoid humanity extinguish, the next issue is to discuss how to fulfill the target of concerted action by all humanity.

People have ever done and are being done a series of efforts in the respects of harmony of stand for each country and unification of action for humanity. The efforts include politics, economy, society, environment, military and so on. But the focal point is mainly centered about the issue as how to prevent war. It's because the most bloody and terrible self-destruction for humanity have always been the war. The harm to us from a war can be recognized most clearly by humanity. However, in the present epoch of the development of society, things have changed dramatically. At the back of he most terrible various disasters, the direct source is science and technology. Especially, the disaster led by science and technology has not been simply destruction of wide scope, but the annihilation of the human race. If so, it requires us to renovate hundredfold, thousandfold and even millionfold efforts to restrict the development of science and technology. Because we will have no chance to regret or make a new start, if the extinguish come into truth for our own lapse.

It deals with whole existing for humanity. All the other value seems to be insignificant in front of such value. The incomparable importance required concerted action for all humanity to be absolutely thorough, coherent and permanent.

The past human endeavor on unity and coordination of the world can not be called no persistence. Among them, the most comprehensive and the heaviest two effective efforts are the foundation of the international alliance and the United Nations.

I. The international alliance

The international alliance is the first universal international organization of history for humanity and the first system to be organized to coordinate world-wide action and guarantee collective security for the whole earth. The reason for the unprecedented foundation of the international alliance at the beginning of the 20th century is the result by recalling the past with pangs in the heart after coming through the situation of dog-eat-dog.

World war I which broke out in 1914 lasted for more than 4 years. It is the first extremely miserable war upon a world wide scale that all the major powers then were involved in the war. More than 10 million people are dead and more than 20 million people are wounded. The direct and indirect cost of war came to $ 43.6 million which is 10 times more than the total sum of cost for all those wars in the past 200 years.

It was astonishing and apprehensive to face with such great destruction. Someone had advocated building up a universal international organization during the war and using the international organization to unite and coordinate issues of the world to make for the peace and to prevent other major wars. At the meeting of the Paris Peace Conference for solution of the problems after the war, the U.S. President Woodrow Wilson suggested fourteen plans, in which he injected greatest enthusiasm and desire is the foundation of the international organization. It had been put in as the first section in the Treaty of Versailles.

The foundation of the international organization made people all over the world hopeful, especially some small and medium-sized country that was always being put upon deeply by huge countries. They had seen the international organization as their umbrella for their national security and sovereign equality. President Woodrow Wilson who was also known as a scholar believed in that the international organization is a reliable guarantee for world peace.

The international organization aimed at playing a positive role in international affairs since its foundation. With expectation from people all over the world, a series of work had been carried out. But this proved that the international alliance often contained no active substance and the effectiveness is very limited as an international organization.

The first severe challenge encountered by the international alliance is Japanese Aggression upon Taiwan. On September 18, 1931, the Japanese Army stationing in northeast China attacked suddenly the core city of Shenyang and without warning. Then it occupied major cities and towns along the South Manchuria Railway lines. After the Incident, for ceasing such blatant aggression from Japan, the Nanjing government then had great expectations of the international alliance and made a decision that whole power for solving the problem is to be devolved to the international alliance. So, the Chinese government raised appeal to the international

alliance council soon with the requirement of action by the international alliance to reset the state to that before September 18th Incident.

The international alliance council conducted a study to it for complaint of Chinese Government and passed the resolution. But Japan did not pay attention at all. Under the circumstances, the international alliance council passed the resolution a second time only to meet opposition. So, the international alliance council decided to combine into a specialized fact-finding mission to carry out the enquiry to the Far East.

Wrapping up 6 months of investigation, the fact-finding mission of international alliance completed International Alliance Fact-finding Mission Statement related to the situation of China. After some discussion, the resolution about fact-finding mission statement was adopted by the international alliance. The resolution announced that the occupation of Chinese territory by Japanese Invaders was unlawful and asked Japanese to withdraw all its troops from northeast China. At the same time, the statement declare d the puppet regime set up by the Japanese was unlawful, either. But there was no crackdown on Japan and the special benefits for Japan in northeast China was admitted. It is a resolution with some compromise for Japan actually.

But even such resolution with compromise was still refused to accept by Japan. The representative of Japan went out suddenly. And the Japanese government declared formally to withdraw from the international alliance later. The international alliance could do nothing in front of arrogant ways by Japan. They could only denounce Japan under a moral obligation to end the issue.

The second severe challenge encountered by the international alliance since Japan launched the invasion into China is Italian Aggression upon Abyssinia.

Under the pretext of a border incident happened in the area located between Italian Somaliland and Abyssinia on December 5, 1934, the Italian troops occupied the area and forced to sue for compensation for the losses from Abyssinia. The unreasonable request was met with a flat refusal by Abyssinia. As a small country, it had no power to fight against Italian in terms of military. So Abyssinia rested hopes in the international alliance. On January 3, 1935, Abyssinia lodged a complaint with the international alliance to appeal them to step in and help stop the invasion.

The international alliance was actually controlled by England and France at that time. The international alliance should not stands aside for the invasion of Italy whether in the light of the tenet of maintaining League of Nations or in the light of standing up for behalf of England in North and East Africa. However, England and France treated the act of invading by Italian with caution then. They did not consider how to maintain justice and League of Nations but to be afraid of offending Italy so as to force Japan allied with Germany. So, its attitude is quite ambiguous.

The compromise of England and France fed the ambitions of Italian invaders. On October 3, 1935, Italy attacked Abyssinia formally. All things considered, the international alliance had to give sharp reaction to declare that the action from Italy is aggressive act for its so flagrant aggressive acts. And they also decided to impose economic sanctions on Italy which did not contain important products as oil, coal, steel and so on. That was simply due to the attitude of non-cooperation from France. Of course, sanctions like that were doomed to failure.

Italy troops used chemical gas against Abyssinia defenders who put up a strong resistance. Then, Addis Ababa, the capital city of Abyssinia, was captured and the nation was swallowed up.

What's worth thinking deeply about is that emperor Haile Selassie for Abyssinia went to Geneva in person. He spoke at the meeting of international alliance on June 30 to accuse Italy of the crime of aggression and ask for intervention by the international alliance to check the aggression of Italy. He also appealed the international alliance to extend loans to Abyssinia for resistance to Italy troops to purchase firearms. However, there were 25 abstentions, and 23 against the pitiful request. The only one affirmative vote is from Abyssinia itself. The international alliance gave up its sanctions against Italy on July 4. It is visible how insignificant the strength from the international alliance was. How weak the sense of justice from countries all over the world is in face of power.

Daring not to be a champion of justice, League of Nations gave in to power. Its feeble made all countries disappointed deeply, at the same time, led a convenient way to aggression of fascists.

It was the weakness of the international alliance in the attitude towards Italian aggression to Abyssinia that stimulated the ambition of aggression of German and England. On July 7, 1937, Japan made war extending throughout China. The important reason led to this result was the result of the thorough understanding to the international alliance by Japan.

It was Hitler who made the international alliance lose its function. Encouraged by Mussolini who pulled off aggression to other countries, Hitler decided to challenge the Treaty of Versailles according to which German, the failure of World War Ⅰ, could not quarter his troops inside 50 km of the east bank of the Rhine. This are should be a non-military zone.

The existing of non-military zone of the Rhine was viewed as eyesore, because it finished military expansion by German and made a space of German in the West for defense to France. Hitler had wanted to have the nail out all that time. But German was only just beginning to reorganize to arm its troops then. So, its strength of military could not fight against UK and France. If the International Social stepped in to limit its rights, German impossibly achieved the goal he wanted.

However, the appearance of maintaining justice by the international alliance, UK and France as well as the attitude of appeasement policy toward strong power encouraged Hitler to tempt fate. On March 7, 1936, 35 thousand Germany troops moved towards non-military zone of the Rhine by order of Hitler and built line of military. At the same time, they occupied a few important cities and towns along the west bank of the Rhine.

Such an open violation to the treaty of Versailles made France at risk directly. The France government then advocated to sending armies to the Rhineland. The voice for forcing German to withdraw its troop was truly high. But when it came to ask for British opinion, the Great Britain who was not willing to run the risk of war opposed both the tenets from France and sanctions against German. The French government missed the chance to send armies to the Rhineland and put a brake on expansion of Hitler's ambition due to its daring not take action alone. What needed to emphasize is that the international alliance then were controlled by UK and France actually at that time. Their attitude made the international alliance only accuse German of violation to the treaty of Versailles instead of taking any effective measures to the problem of German's sending armies to the Rhineland.

For that caught on by fascist Germany, Italy and Japan, Hitler realized the international alliance played a jerkwater role actually and could be put aside thoroughly to do what ever he wanted.

So, German annexed Austria on March, 1938. And then it occupied and annexed Sudetenland of Czechoslovakia on October the same year. Then again, it fished in troubled waters to divide Czechoslovakia and made the country die.

Hitler German openly tore up the German-Poland non-aggression treaty to attack the sovereign state Poland. That forced the UK and France to declare war on Germany. World WarIIbroke out so.

Since World WarII, the international alliance hade existed only in name. After the war, the international alliance declared dissolved formally.

From preparation to establish, the international alliance has devoted so much passion of wide awake people and political leaders. A powerful lot of liberty-loving people were looking forward to it. They even imaged the foundation of international alliance may bring permanent peace to humanity. However, all those expectation and hopes existed only in short fancy. During the 26 years of its existence, the international alliance did not stop even a great conflict.

The international alliance had managed in another important affair which was the organization and coordination of international disarmament. Then, under all kinds of effort from the international alliance, the international alliance made no substantive advances in the international disarmament, either. In fact, the whole contribution from the international alliance was only to offer a false hope and certain experience for later foundation of the United Nations.

II. The United Nations

Humanity is a kind of animal that will never learn from the experience. They begged peace, but the hope of which will always be a mere shadow. World War Ⅱ which was more tumultuous broke out only less than 20 years after World War Ⅰ. World War Ⅱ produced more disaster than that of World War Ⅰ. The number of wounded and death caused by the war is 100 million population, among which 55 million were died. The economic loss produced by the war was countless.

Experienced the great disaster of the two World Wars in person, the expectation of people for peace was greater. They hoped that there would be an organization to control the world and ensure its peace truly. Birth of the United Nations is the result of people’s strongly appealing for peace.

(1) Weakness of safeguarding world peace

The main aim of the United Nations was to safeguard world peace and build collective security system, which was also the purpose for its foundation. The United Nations was founded for 60 years. Though World War Ⅱ has not broken out, Local wars have been incessant. Various armed conflict still happens from time to time. The number of death population caused by those wars and armed conflict were more than 20 million which was double as much as that in World War Ⅰ. As counted, there were about 200 great conflict happened. The scale of some of them was very large and the number of countries involved in was large, too. For example, the

Korean War, the Vietnam war, Middle East Wars, the Iran-Iraq war, the Iraq war and so on. The United Nations showed the ability at its command inadequate to achieve the goal of safeguarding world peace and dealing with the local conflict.

The basic factor for influencing the United Nations to safeguard world peace is the difference on country interests. As an international organization, its authority was entrusted by the states. The interests of sovereign state had always been above that of the United Nations. All decisions from the United Nations will be necessarily boycotted by some countries, as long as they collided with their interests. If those are countries with strong strength, or supported by huge countries behind, the decision made by the United Nation must not be carried out. So, on the aspect of interference to the United Nations for safeguarding world peace, the interests of huge countries are especially more important among interests of countries. All the important decisions made by the United Nation can be carried out only when according with interests of huge countries or not greatly colliding.

As far as UN peacekeeping, from the first time taken such an action of the first Middle East War on June, 1948 to the time Cold War ended in 1988, there were only 13 UN peacekeeping. But the situation turned since 1989, there were peacekeeping every year. Sometimes, times of the peacekeeping may over ten. It was because the interests of the two camps led by the two super huge countries as the U.S.A. and the U.S.S.R during the Cold War were hard to balance. It is difficult to reach an agreement on one action of peacekeeping. Never had one country would like to discuss one problem standing in the side of benefits for the all human beings instead of its own benefits, there were always phenomenon like that the decision one country approved must be disapproved by the other one on the stage of UN or vice versa. So many farces staged made the world disappointment. Since the end of the cold war, contradictions among huge countries has tended to relax with the disintegration of the Soviets, competition among countries turned to the aspects of social development and economy more. Each country hopes to have a peaceful and stable international environment. They have common hopes for peacekeeping. So, times for action of peacekeeping are much more than before.

But, with the formation of basic configuration of the world as one super country and many huge countries since the Cold War, America who is the only one super country pays more attention to control the UN to take action of its expanding in the name of peacekeeping and counter-terrorism. Of course, the UN will not take orders of the USA everywhere. So the USA takes action without agreement of the UN alone, once they do not agree with each other.

In the year of 2003, the USA planned to overturn regime of SADAM in the name of anti-terrorism. The behavior of American was clearly visible by people all over the world. The so-called anti-terrorism is just an excuse. The substance is to pursue hegemonism for oil in the Middle East. So, most countries were set their faces against such behavior of the USA. The broad and forceful wave of demonstration parade lasted for a long time. The spontaneous behavior in common of people the world over was unprecedented since the cold war. The traditional main ally as France and Germany all took strong stand against it. The USA had ever attempted to get the authorization of the United Nations' Security Council. But except American and England, all the other three permanent members had expressed disapproval of the war. They even said to take exercise of veto power. A small number of countries as the American and England used force with Iraq by one-sideda bypassing the United Nations, and launched the overthrow of the Taliban and Saddam regime without authorization.

Open affront to the UN or acts of aggression bypassing the United Nations happened frequently during the 60 years of the existing for the UN in defiance of strong opposition by the international community. For instance, Israel seized the area of Arab to prevent foundation of Palestine. The UN has ever passed its resolution many times to stop the action by Israel. But Israel got behind the agreement depending on the support of the USA. The UN could not manage it, especially when it came to the actions that were participated in by huge countries. Sometimes, the UN even dared to air it. Such as the cases following: the Warsaw pact states launched an invasion into Czechoslovak, the Soviet Union invaded Afghanistan, Nato War Against Yugoslavia, the U.S. Decision making about Invading Grenada, American invasion of Panama and so on. The most greatest local war since World War Ⅱ as the Korean War and the Vietnam war were not well treated by the UN on the aspects of settling a dispute and avoiding killing, for the support behind them are all huge countries.

(2) The rocky road to disarmament

The United Nations Charter pointed out that the UK will aim to cut expenses of military for Human resources and economic resources as much as possible. Under the Charter, the UN General Assembly and the Council will be in charge of disarmament and readjusting arms.

In order to promote the process of disarmament, the UN has built up a series of organizations for talks on disarmament, for instance, threat for humanity in relation to Nuclear Weapons. The Atomic Energy Commission was established by the UN under its council earlier than the day of January 24, 1946. However, the long road of disarmament for 60 years made the UN suffer a loss of prestige. The result of its action for disarmament is even ironic.

The Soviet Union planned to set out on an experiment for H-bombs with a yield of 56 million TNT in Novaya Zemlya. Such tremendous force of explosion equals nearly 3000 times the yield of the bomb dropped on Hiroshima. Such a nuclear test did not adapt to the expectation of nuclear disarmament then. So, on October 27, the United Nations Genera1 Assembly ratified the agreement of imposing a moratorium on nuclear test of Soviet by a vote of 87 to 11, with one abstention. But in defiance of strong opposition by the international community, Soviet carried out its experiments on time 3days later.

The entry into force of the Comprehensive Test Ban Treaty needed endorsements of the 44 nuclear-capable countries and the approval from the authority concerned of these countries. But until now, there were ten more nuclear-capable countries without approval or endorsements of the Treaty, especially the USA that is the hugest nuclear states country. The American vetoed to ratify the treaty in the vote of the Senate in 1999. Furthermore, the now U.S. President Bush has decided not to send the treaty to the Senate to be voted again.

As an international organization, the authority of the UN was given by states. If the states do not give the authority to the UN, it can do nothing. Especially when it comes to the action from the USA, there will be nothing the UN can do.

The verified agreement of the Biological Weapons Convention has a long process of negotiation for 6 years. They finally came to an agreement basically on July, 2001. The treaty seemed to be signed until the USA declared to refuse to sign the agreement suddenly on July 25, which made all effort from the UN useless and the fruit of the negotiation for 6 years ended up in nothing.

Outer Space Treaty passed by the UN in 1976 sets down prohibition of deploying and using weapons of mass destruction in outer space as well as foundation of military base in the other stars. But the United States, Russia and other countries had launched the plan called Space Military formally. The Space Troops of the two countries had been raised.

It is to be regretted most that the USA withdrew from the ABM Treaty. The ABM Treaty was signed between the U.S.A. and the U.S.S.R. in 1927 to ensure nuclear deterrence for each other by forbidding the development of anti-ballistic-missile system nationally. The purpose of the treaty is to muzzle nuclear war through balance of nuclear terrorism. The strength of the U.S.A. and the U.S.S.R. after the Cold War had not been that 30 years before to be similar. American ambition was to have a lead over the rest of the world in military for long and dominate the whole world. All the other countries have realized the possibilities that the America would go its own way to withdraw from ABN Treaty early. In order to avoid such situation, the 54th Session of the UN General Assembly ratified the agreement of Preservation of and Compliance with the Anti-Ballistic Missile Treaty by a vote of 82 to 5 on November 29, 2001. It was the third year that similar resolution was passed by the general assembly of the united nation. But in defiance of strong opposition by the international community, president of the United States declared to withdraw the Anti-Ballistic Missile Treaty.

The ABM treaty is backbone of system for international arms control. In the area of international disarmament, there are 30 more treaties linked to it. The revocation of the ABM treaty had shaken system of international disarmament actually. The result is conceivable.

In retrospect, all the work that the UN done on disarmament is as follows. In the year 1945, the USA was the only one country that had atomic bomb. And then in 1946, it began to work at international nuclear disarmament. The actual results for its talks on disarmament were that types of nuclear weapons as well as the number of countries had nuclear weapons and nuclear warhead were increasingly rising so that now the number of countries had nuclear-weapon states openly have been 8. And the actual number should be more than that. The total amount of global nuclear weapons had been 70 thousand when it came to the top. Even now, nuclear warhead could be counted in the number of 10 thousand. Besides the bomb, there is Hydrogen Bomb, neutron bomb, high-pressure shock-wave bomb and so on produced. And a fourth generation nuclear-weapon has been in the plan for its study and Manufacture secretly.

The UN seemed to pass many revolution of disarmament after the Cold War. But the American without restraint is marginalizing the UN more and more. Any resolution may not restrict countries like the USA substantially. In fact, the affect on the other huge countries is limited, too.

(3) Dilemma for coordinating contradiction of economy and society

Different from the international alliance, the UN has duty of coordinating international economy, society, culture, education, health and so on. Then, compared with maintaining peace of the world and international disarmament, it will be much easier for the UN to pass a resolution about statement, declaration, treaty, term and protocol. That is because the problem of economy and society has always been right for common in moral and interest. But, the resolution of the UN would settle for a lot less when to be carried out. The resolutions with common interests are easy to be carried out. But they are hard to be carried out, when the interests of each country are different, conflicts occurred between the long-term and short-term interests or between the national and international interests.

In term of war and disarmament, the attention that paid by the world of problems of economy and society are less and the sense for urgency is weaker, either. So, the strength of the surveillance dynamics for the resolution passed by the UN is weaker. This gives the action of refusing to catch on the resolution made by the UN no real appreciation under the circumstances of its overflowing.

The UN held the eighth United Nations Congress on the Prevention of Crime and the Treatment of Offender in capital and largest city of Cuba. The congress had passed 46 previous resolutions within only 10 days. The record is impossible to be broken on war and disarmament. That is because the problem of deterring lawlessness is the common interests of all countries. The treatment of offenders is ethical question that be recognized. Even though some countries would not like to increase benefits for offenders, they will never show their disapproval openly.

The drug-dealing together with drug-addiction is social effects of pollution. Any country will see that as monsters. The topic about drug control can be welcomed naturally by the world. The Single Convention on Narcotic Drugs, the UN Convention Against Illicit Traffic in Narcotic Drugs and Psychotropic Substances and a series of resolutions are easier to be passed. Hundreds of programs against drugs made by the UN are easy to be carried out relatively.

The terrorism is also social effects of pollution. So the revolution as Convention on the Prevention and Punishment of Crimes against Internationally Protected Persons, including Diplomatic Agents, International Convention Against Taking Hostages and so on can not be denied certainly.

The problem of environment and sources are great events concerns sustainable development for us mankind. Only from the convening of the first international conference of mankind environment in 1972 to convening of the first international conference of mankind environment in 1992, 180 more terms, treaties and agreements were on environment and source had been signed under the intervention of the United Nations during those 20 years. But those terms, agreements and treaties are hard to be carried out. For example, excessive use of fossil fuel and organic fuels together with pouring a large volume of smoke to the air makes the temperatures of the earth increase and natural disasters frequently taken place. So regulation of emissions of greenhouse gases became common cries of the world. The amount of Fossil fuels used by the USA is the largest, so the America refused to ratify the Kyoto accord on emissions of greenhouse gases and emphasized the function of forests-protecting and planting more than the responsibility it should shoulder for its excessive use of fossil fuel.

Another example is that protection of forests is an important means for protecting biodiversity, preventing land desertification, and controlling global warming. In September 1991, the UN had passed Proclamation of Paris to appeal to the world for protecting forests and rebuilding green vegetation of the earth. Then the Statement of Principles about Forests, Convention on Biological Diversity and Convention on Combating Desertification were passed. But the poor developing countries were not able to improve productivity by developing industry together with science and technology. So, they killed the goose that lays the golden egg. They cut forests, sold sources and grazed excessively in order to solve the problem of food and clothes.

Consequently, it is not so easy to pass the resolutions above of the UN. Even though they are passed, it is still a difficulty for dealing with the problems fundamentally. By and large, the issue is that the contents concerned in those resolutions do not fit interests of some countries well. When there is conflict between long-term interests

and partial interests, the nations usually choose the latter. And when there is conflict between country interests and individual interests, the nations must choose the former.

Section IV Radical Choice-establishing of a Monolithic Society

Seeing that it has been a failure of the two supreme efforts for a unity based dream for all of humanity in history as the foundation of the international alliance and the UN, what is the reason and how can we achieve the target of humanity unity? How can the restriction on development of science and technology be fulfilled finally?

I. The origin for limitations to the role of international organizations

(1) Conflicts between interests of country and international organization for granted

The international alliance and the UN are both founded in world war. Their foundation results from the realization after the bloody slaughter. Such international organizations all stands for the side of humanity unity by coordinating benefits of different countries to achieve the goal of preventing war, disarming, maintaining peace, eliminating poverty and benefiting the world. But, in the practice of the international organizations, the international alliance did not prevent World War Ⅱ, the UN did not prevent hundreds of local wars since World War Ⅱ, the continuous increase of nuclear warhead, the destroy of environment or growth for poverty population.

It should be said that the international organization did not turn a blind eye to all those, to be the opposite, it have stood for the whole benefits of humanity to coordinate each sides actively with all means it could take, once there were affairs against peace or influence benefits for humanity. The international organizations has done all they should and could do only to get little effect.

The first reason of its unable to unity actions of humanity by the international organization is the conflict of benefits between international organizations and countries.

As far as the principle, the international organizations consist of nations, the foundation of the international organizations are sponsored by leaders of each country. So there should not be great conflicts of benefits between countries and the international organizations. However, it is not true. The conflicts for benefits happened frequently which lead to the result that the international organizations can not achieve the goal of coordination for benefits of each country and unity for action of the whole humanity.

Spots in human nature decides that partial interests can gain the upper hand, if there are conflicts between partial interests and overall interests; immediate interests can gain the upper hand, if there are conflicts between immediate interests and long-term interests; temporary interests can gain the upper hand, if there are conflicts between temporary interests and root interests. That is the sense for benefits of humanity view in human nature, which is the result of short-sighted humanity.

Such human frailties are mainly manifested of countries by phenomenon as following: the interest of the country can gain the upper hand, if there are conflicts of benefits between country and the world; the interest of the modern generations can gain the upper hand, if there are conflicts of benefits between modern generations and descendants; partial happiness and existing can gain the upper hand, if there are conflicts of happiness and existing between individuals and the whole humanity.

Generally speaking, the international organizations, among the interests of all quarters above, represent long-term interests, root interests and general interests for us. That is because the origin, original intention and duty of the international organizations imply long-term interests, root interests and general interests for humanity.

Both the international alliance and the UN were founded for the same purpose. Elitisms initiated to create the global organizations of great generality from the view for the survival of humanity as a whole and the fundamental interests and well-being. They did so in view of the enormous destruction and casualties of the two World Wars and in order to avoid such human suffering. It is precisely because those international organizations were founded from the very existence of mankind as a whole starting with the well-being, so they are overall organizations formed for all rather than local agencies founded for the interests of a certain part. Furthermore, the interests of the relationship they represent must be overall interests, long-term interests and the fundamental interests of humanity.

The main purpose and duty for League of Nations was to stop the war and the reduction of armaments. Its focus is the overall interests of humanity rather than local interests and is long-term and fundamental interests, rather than the interests of immediate and surface. Purposes and duties of the United Nations are more extensive in terms of relative to the League of Nations. In addition to safeguarding world peace and the reduction of global arms outside, it also involves social, economic, cultural and other aspects. To this end, the United Nations is committed to the eradication of poverty, environmental protection and the fight against drugs and international crime, etc., all are on the perspective of overall interests, long-term interests and the fundamental interests of humanity.

Of course, international organizations are not doing everything objectively well to the overall situation of human interest, long-term interests and the fundamental interests. For example, the United Nations is not in favor of limiting the development of science and technology, but also to encourage the development of science and technology, this can only say that the United Nations so far has not really recognize the science and technology to human survival, a huge threat to the whole, it can not be said that the United Nations as a whole do not care about the human survival. In another example, in the history of the United Nations, there is indeed some justice contrary to human aggression and the indulgence of the big countries do, it is because the United Nations to stop this aggression can not and do not want to be completely lead to the collapse of international organizations, such behavior is the United Nations last resort, not the original intention of the United Nations is located.

In contrast, countries tend to maintain only the interests of the country, the interests of contemporary people and some people's happiness and survival. They represent the local human interests, immediate interests and surface interests. The reason why this may be true, first of all because the country itself is the concept of a region, the state is necessarily the primary consideration of the governance of their region, and its terms of reference is in the region within the scope of, human beings do not have the overall, long-term and the

fundamental interests of the priority requirements. In contrast, the call of duty to country is bound to first consider the interests of the national level, and can not be the whole world.

According to results, we know that the continuous belligerence is the inherent weakness of human nature. In national society, there are many countries co-exist in the world. At the same time, it is inevitable of such belligerence among those countries which appears as competition of national overall strength, comparison of the national standard of living, and the pursuit of achieving political aspirations by leaders of a nation, etc.

In cases that so many countries co-exist, there will always be individual countries with solution of some problems that only has been based on their own interests rather than the overall interest of humanity. Not only the disastrous effect caused by them on interests of mankind will undid efforts of other countries, but also the unilateral action of these countries is bound to make them gain appropriate interests, which eventually enhance national strength. At strong enough strength, the country will be able to oppress the other countries that put the overall interest of humanity on an important place, while ignoring the partial interests of their own country. Therefore, those countries who give top priority to the overall interest of human beings would actually be on the losing side. Furthermore, the losing side here does not mean what we have known before in general. A small and weak country can been oppressed or invaded by great power at the expense of national subjugation and genocide, as well as the lives and blood of millions of people.

Similarly, in cases that so many countries co-exist, there will always be a number of countries that insist on the pursuit of interests for present generation in disregard of the interests for the future to improve the standard of living for present generation constantly. However, those countries who put interests of the future on an important place will meet opposition from modern people for no immediate interests gained, and status of the ruler will be shaken then. Thus, the rulers will have lost right of sovereignty for the country. Also, that usually means that head of themselves will lie at feet together with their family and follower. Understandably, how great the price is for the rulers!

Let us now look at the attitude towards fundamental interests, such as the whole existence of humanity. As we know, the problem of whole existence for humanity is a conclusion drawn through wise consideration rather than an urgent problem lies ahead. Such a conclusion is focused on the future. It is impossible at all for the two as following to consider the whole interests of existence for all mankind at risk of losing well-being and survival of people at home, as well as rule and lives of their own. That is, the countries with fear of being in a passive position under attack from the competition, or the leaders of state with fear of losing leadership positions by not complying with the shortsighted requirements from modern people. Because human survival is a matter for all in the future, and that the national interest is an immediate thing for the country itself.

To sum up the above arguments, you can clearly see that in the national society with the existence of international organizations, conflicts between partial interests and general interests， immediate interests and long-term interests， as well as temporary interests and root interests for mankind have naturally evolved into conflicts between the country and the international organization. The country here is a representative of partial interests, immediate interest and temporary interests. The international organization here is a representative of overall interests, long-term interests and the root interests. As long as there are countries and international organizations coexist, there will be conflicts between country and international organization without a doubt.

(2) International organizations are unable to condition behavior of the country

International organizations are created and constituted by the countries. And their authority is conferred by countries. But when the international organizations exercise their rights, they can find no support by countries. The contrary is indeed true, it is just the county that as the biggest factor to hinder the action of exercising rights by he international organizations.

In July 2004, the China Central TV Station had interviewed The United Nations' former Secretary Gully. In talking about the Rwandan genocide, Gully came out with the truth that he had sent a request for troops to more than 40 countries, especially to the USA for many a time, since he recognized how serious the situation of Rwanda is. But, there was no one accepted his request, which bred the disaster of Rwanda as a result (there are millions of people died unnatural deaths in less than 100 days of the Rwandan genocide). No country will to see their soldiers die or put hands in pockets for peacekeeping. And the UN did not have the Blue Helmets then, as a secretary, he can only ask for money, troops and weapons, even the aircrafts for transporting troops, to each country.

Gully considered that the UN secretary is both secretary in normal circumstances and captain in an incident for each huge country. Huge countries, however, prefer secretary to captain.

Interviewed by CCTV in October 2004, the then UN's secretary Anna had said almost the same thing. He said that UN should try its best to be a good secretary in normal circumstances, but it should also be a good captain in an emergency. However, huge countries do not need captain so much as the secretary following directions. The Gully and Anna's words strongly implicate the embarrassment of the UN. They are the real portraiture of UN's situation.

The people sovereignty thought is the political thought widely accepted by modern democratic countries, according to which, the power of country is given by the people, that is to say, the relationship between people and country is similar with that between the international organizations and the county. But, a country can regulate the conducts of people by laws, and people must live, study or work within the sphere permitted by law. Otherwise, the country will make use of the regime's organs which is in full effect to persecute. Quite different from that， power of the international organizations is given by the country, and the rules of the international organizations have been signed by all member states, so it is legally binding upon every county, however, the country can be excused from this regulation of international organizations and even had always done things against the international law, but not to be investigated substantively.

The reason is that the countries have a series of means to maintain its own political power and exercise its sovereignty independently, and they also have the capacity to mobilize economic resources and society resources most effectively. However, the international organizations do not have such means and capability. They can only perform their own function by power of the countries. If those countries would like to provide such power, the international organizations can exercise corresponding duty, and vice versa. Especially when a country is powerful enough to a certain extent, it can shake off the restriction from the international organizations.

It has been proved that the roles of all conventions, treaties, agreements, resolutions, appeals, declarations and so on formed by the international organizations are limited. They may be a little useful when all the huge countries reach a unanimous decision. But when there are conflicts with interest of some huge countries, especially the super countries, all above will be only a piece of waste paper. Also, hopes can not be anchored

on peace guaranteed by international organizations, because huge countries can destroy such peace carelessly and make the guarantee from international organizations ineffective completely.

It is the supreme authority that makes the power of a country be above that of the international organizations actually. On one hand a country can hinder the decision made by the international organizations, on the other hand the international organizations are unable to control actions of the country. At the same time, each country has separate interests of its own, and those separate interests are quite different from each other. We must take care of the interests of some countries' at the expense of interests of the others'. Therefore, the target of unification of humanity action can't be achieved at all by the international organizations whose strength is less than countries'. It can only play a small part at most on co-ordination. Whether the effects of such co-ordination are good or not depends on attitude of country. When there tends to be identity of interests for each huge country, its effect on co-ordination will be better or vice versa.

We know that restriction on development of science and technology will inevitably influence the interests of countries. There are so many issues related with science and technology, such as the strength of a country, the benefits of enterprises, standards of people's living and so on. Therefore, tight restriction on development of science and technology is undoubtedly the serious challenge for interests of a country. To lead the great action of tight restriction on development of science and technology which involved with the long-term interests, overall interests and fundamental interests for humanity and have a bearing on whole existence of humanity, we must rely on a global organization with strong power rather than an international organization. That is because the weak international organizations can not be opponent of the country. Various measures and decisions for uniform of human action of the international organizations will, sooner or later, be obeyed and destroyed by countries with supreme authority and independent sovereignty.

II. Only through international regime can our actions united

(1) International regime and unified society

We can rely on neither the international organizations nor the country, if we want to lead the unprecedented great action of tight restriction on the development of science and technology that lasted millions of years. There are 200 countries around the world today. It is their vicious competition without disorder that leads to the rapid development of science and technology, so that mankind has been in the risk of destruction brought by science all the time. Extreme means as the law of the "triple-gain" is just the inevitable result of station society. In fact, only the elimination of doing its own in each country and united action of all mankind can avoid disorderly competition of countries and limit the development of science and technology. Then mankind will be possible from drowned.

So, what kind of organization or what form of organization can complete this difficult and sacred and great mission?

About 10 thousand years had passed, since we entered the era of human civilization. When we look at all forms of organizations human beings have had, such as villages, tribes, countries and international organizations, or enterprises, associations, societies and a variety of research institutions, etc., it is the country that has the greatest strength as leadership or organization. The country rules its people by using the army, police, judicial

and other government agencies. Even in modern democratic countries, all state power belongs to the people on theory, however, a person must act within the law under the control of a country. The state will be able to use their own means of its power to impose sanctions on a person, as long as he or she breaks law of the country. The sanctions range from the punishments involving the economy and the reputation such as fines, exposure and so on to the extreme punishments of deprivation of liberty or the lives such as imprisonment or even execution.

There are too many means for the rule of a country, if classified carefully. For example, economic means, administrative means, military means, propaganda means, legal means and so on. The form of national society we are being in now is an enduring social form and has strong vitality. The era of the national community had begun soon after the beginning of civilized society. Until today, we have reached the level of highly developed civilization. But, the human world is still controlled by the state power. All those mentioned-above is because rule of the society organization form as a country is very powerful and the management of the community is very effective.

However, the state as a powerful means of rule and an effective means of management can only play a role within the country. All rule can be valid within the scope of the state. But we should obey the laws of another country and accept its rule and management, once left the country. Then the another country mentioned-above can have the same powerful means of rule and the same effective means of management, but all are only limited to that country.

It can be seen that under the national social formation, all the countries have formed their own highly independent region which is the country's boundaries. Within the respective boundary, each country has been operating independently and has its own separate interests. The country determines its independent acts according to its own interests. Its regime is extremely powerful and its management is highly effective. No other force can really insert into it.

Well, it is necessary to establish agencies adapted for the force of the rule and management of a country’s regime, if we want to drive the world strongly and unite action of all mankind. But the region for governance of institutions is the whole world rather than one part or a few parts of the world. We may as well call the agency as the world power.

The so-called world power is the establishment of a uniform regime worldwide. The establishment of the world power means the unity of all mankind. Everybody is ruled by the regime, and any region that humans can set foot in is included in the jurisdiction of the world power (including outer space, as well as other planets human beings have landed on). World power has authority and strength of management and rule as the state power. But its scope of governance is all mankind. It will replace the role of country to become the highest authority in human society. Completely different from the national society, the highest authority above is the one and only. It not only rules the whole of mankind, but also considers all by standing for the respect of overall interests and long-term interests and fundamental interests of all mankind. Therefore, only the world power can lead the long-term, great and arduous actions whose influence covers everyone and every region of the world, such as the action of restriction on the development of science and technology which impact such a serious view on many groups and their interests.

The establishment of world government must be on the premise of elimination of the state. It will enable the management of the world to become a whole. The form of human society will transformed from the national society into grand unified society.

Standing on the perspective of our knowledge of the political structure and political system today, we can find the world government is the highest executive authority agency for the grand unified society among the relevant agencies of world power. It establishes different policies and takes different actions with overarching vision for all mankind in stead of partial vision for one country. Furthermore, it deploys resources and formulates administrative rules uniformly from the long-term and fundamental interests of all humanity.

In addition to the unified executive power institutions such as world government, the grant unified society has its unified legislature and judiciary. Everyone in the world is learning, working and living under the control of unified law. Everyone has responsibility and obligation to comply with such a uniform law of the world, and should be supervised or investigated by a unified judiciary.

World Government, world legislative and world Judiciary constitute major component of the world's regime. Of course, there will be much more other authority departments subdivided from the world's regime, such as the army, police, department for surveillance, department for business management, department for culture management and department for public administration, etc.

(2) The two questionable point for the grant united society

1. The issue of the ability for world power's control

When talking about the issue of only world power can achieve the limitations of science and technology and use the existing safe established achievements of science and technology well, somebody must argued that many problems in various countries can not still be solved by the state power, how can united society fulfill limitations of science and technology, as well as the rational use of existing scientific and technical success?

There are two ways here to answer this question: first, in national society, the state power itself does not will to meet the requirements above rather than can not and vice versa that it encourages development of science and technology desperately, because the state power will consider a problem only to stand of interest of the country. Only to encourage the development of science and technology can a country be powerful and remain invincible in the competition. The political power of the world in grand united society is based on consideration of all mankind. It has the desire to achieve these objectives above first in order to avoid the extinction of the human being and to ensure the general well-being of mankind. Undoubtedly, a regime with no such desire, or even doing the opposite thing, can not bring that off, let alone well. While the other regime with this desire first can do it at least, certainly it will be better than the one who doesn't have the desire and even does the opposite thing.

Second, the strength of the regime is very powerful actually. We can not simply approach a problem with the perspective of the strength of today's of political power, for example, the society now is a democratic society (I also consider the democratic society as a good community and I believe that community in the future should also be a democratic society) and a peaceful society on the whole, so the means used by the regime is limited. In fact, there are many contends of political power means not yet clear to some people. The strength of regime is very powerful. To cite just two cases, the first one is that the rule of the Catholic Church in Medieval Europe

had lasted a thousand years. As we all know, the Western civilization today is from the classical Greek civilization, but during the reign of Catholic Church, the best achievements of the classical Greek civilization all have been forced out by the Catholic Church and lost so. The Renaissance later is a windfall of the Crusades. Those troops robbed a lot of books from the Arabic region and translated them, so that they find their ancestors such great men. There were rationalist philosophers as Socrates, Plato and Aristotle, as well as great scientists as Archimedes and Ptolemy.

Take one more case of China, during the time of the Sino-Japanese War when the Japanese army run after the Chinese army, Chiang Kai-shek regime blew the big Dam of the Yellow River into pieces in order to block the Japanese army. The monstrous waves drowned a lot of Chinese people and, of course, blocked the Japanese offensive. Such means can not be thought of in times of peace anyway. But in a time of life and death, many a thing can be done.

Then, as a global power, a lot of means can be used when humanity are in the time of life and death. Of course, this does not mean that we do those things above, but it can tell us that as a regime, it has a strong ability to deal with the crisis in fact.

2. The issue of it is possible for grant united society to split

In view of the stories that there has been bound to be unification after prolonged division and division after prolonged unification in the history of mankind, someone must argue that if the grant united society splits one day, will it wreck all the progress that had been made before?

To answer this question, I should first say that means of extinction can not be a means of easy reach. If it can be caught as long as one stretches out his arms, there must be people who use it against humanity. There may also be somebody inadvertently touch it and let extinction forces broke out with carelessness.

Therefore, we need to ensure the means of extinction have a considerable distance to us. Many scientific and technological achievements are to be sealed up, once the great unification of mankind comes into truth. We need to not only ensure sufficient material wealth of mankind, but also seal so many scientific and technological achievements up, so that we will be able to stay away from terrible means of extinction. In once it happens to be backward of a few ages in the development process of human history, that is, no restriction on the development of science and technology at that time that might lead us be much nearer to the means of extinction, people must delay it a little as soon as we recognize that so as to keep a safe distance for us all the time. In this way, even if the grant united society may encounter division and the development of human society may encounter backward in the future history for humanity, we can still keep a certain distance with the means of extinction. So, the humanity is safe. If human beings really do not wake up a long time, which lead us into the abyss of extinction, we can only submit.

(3) Unity of society is not the deliberate pursuit of the ideal society

Historically, many thinkers have envisaged the establishment of an ideal society. Plato described the ideal society in the Utopia as public property, the emancipation of women, the importance of education and promoting public wife. Moore in his book named Utopia also described the ideal society as public property. But communisms advocated are different between Moore and Plato. Plato promoted the implementation of property public in the noble hierarchy,. Moore advocates the implementation of the whole society of public property;

Moore advocated the emancipation of women the same, but that should be monogamous. And he also advocated that any person must work to support themselves.

China put forward the ideal Confucian society as a society of great harmony, which also advocated the public property as well as meritocracy. And the Chinese considered the common ground between people of the community as to live in harmony, honesty, and trustworthiness. In the vision of ideal society, there are many well-known thinkers that described it as a public ownership such as Aristotle, Campanella and Marx, etc.

Augustine stated in his City of God that an ideal country should be a Christian country first. This is the description from another point of view the society. Those who hold this view are not a few. A large number of medieval scholastic philosophers had claimed so.

More of modern thinkers started from the political theory with hope of achieving the establishment of the ideal countries by changing the country's political system and national system, such as Hobbes, Rousseau and other Enlightenment thinkers. They put forward a theory of popular sovereignty that considered the country's sovereignty is in hands of its people. In order to achieve democracy in huge countries so that everyone can fully exercise their powers, Paine and Mill put forward the idea of representative government. In order to prevent dictatorship, thinkers such as Locke and Montesquieu made to break down the powers of the state, balance power by power and so on.

All of these ideas are put forward by thinkers for justice, kind or people's happiness and power and other factors. And they thought that human society should be designed as they made and called the ideal society. The so-called ideal society is that the best community in eyes of the thinkers. The purpose and original intention for designing such a society is that the thinkers considered such a society most identified with their political ideas and political standards. Perhaps such a society is only the "utopia"-style fantasy which is impossible to be realized, but in theory, it fits a certain political principles well.

The unity of the world has ever been raised by thinkers. Before the year of 2300, Zeno, the founder of Stoic school, proposed a world-state concept. In his view, ration for people are unified and universal. So are the citizens of the world. They live along the common nature. And there should not be differences of race, status and regions. There is only one type of citizen, that is, citizens of the world; there is only one country in the world, that is, country of world.

Marx and Engels also had talked about the issue of unified world. In their view, communist society is the inevitable trend of development of human society and the communist society will perish one day. The premise of that is that classes no longer exist. Therefore, it needs a long process to achieve the disappearance of the country and the unity of the world.

There have been more thinkers in history to put forward unified world. For example, Kant's "citizen of the world" ideology and Kang's "One World" ideology which contained the idea of world unity. However, whether it is Zeno, Marx and Engels, or Kant and Kang, their vision of the unified world are all proposed on the point of view of the ideal society.

However, here the purposes and motivations of the community on the great unification are completely different. The original intention here is not to find a way to establish a kind of ideal society. The reason for community on the great unification is simply because if we do not make such a choice, there is the danger of extinction for

humans. For the overall survival of mankind, we can only achieve unity of all mankind and the establishment of a world power. Because only political power of the world could truly make unified of human action, limit the development of science and technology and avoid the extinction of all mankind by science and technology. In other words, the great unification of the community is just the choice we are forced to take.

Nevertheless, the pursuit of the ideal human society is always the eternal existence of the belief. We have created the world's political power to achieve unity of mankind. We must build up an ideal society which accord with the hopes of the people most, try our best in this direction and strive to achieve it with a variety of better ideas for this ideal community. However, no matter how many hopes we have for future aspirations of the community, we can not be out of touch with the premise of political power from the world. Once out of this premise, it means that the unity of human action and business for promoting the development of restrictions on science and technology could not be realized. We will move rapidly to extinction.

There are many factors involved for human society. We put forward the idea of unified society only to be a kind of overall summary form of human society under the regime of the future world. In fact, the great unification of the human community includes aspects of the politics, economic, society, cultural ideology and so on. Different design and composition of so many elements have a direct impact on the realization of human values. We can’t evade the pursuit of the ideal society, on the contrary, we should seriously focus on the overall interest of humanity to the design a community as good as possible. Only then is responsible attitude to the whole humanity with right point of view for our benefits.

Chapter IX: Great Unification of Mankind Has Become Possible

After we have confirmed that the greatly unified society is the only choice for saving mankind, what comes to our mind first is whether it is possible to found the greatly unified society that is unprecedented in human history. To put in specific, the so called possibility mainly concerns problems in two aspects, the first is whether the greatly unified society could be governed effectively, if the society can't be governed effectively, then the assumption will be a pure theoretic dream that can't be put into practice, and we haven't found a feasible method to save mankind; meanwhile, we should realize how difficult to realize great unification will be, or in other words, to realize great unification, there are how many advantageous factors and disadvantageous factors for great unification at present, and whether these unfavorable factors will influence the process of great unification.

Section I: Governablility of the Greatly Unified Society

Historical experience tells us that the prime conditions for governance of large country are traffic and communications. Without convenient traffic and communications, governmental decrees and directives couldn't be truly carried out, and the nation couldn't't be governed effectively.

As we know, the larger territory and population will mean more complicated political, economic, social, military and natural factors that are uncertain. Please think, if serious natural disaster occurs at remote area, information is reported to central government three to four months later, and another four to five months have passed when disaster relief actions are adopted, and relief materials arrive there, then losses caused can't be relieved or covered; if central government decides to implement an important policy according to actual situation of state, but it needs one or two years time from conference notice to start of implementation, then real situation will have greatly changed in this period, and policy previously made will be out of date far ago.

World regime of the greatly unified society will face the whole world, and will handle affairs of the whole globe and mankind, from North Pole to South Pole, including both east hemisphere and west hemisphere. There will be numerous things happened everyday on the earth with population of tens of billion, and world regime needs to issue numerous political orders everyday, without very convenient traffic conditions, communication conditions, and rich and direct medias, governmental decrees and directives of the greatly unified society couldn't be truly carried out, the society couldn't be governed efficiently, and the society will lose base of foundation. So convenient, swift, rich and efficient communication conditions that are necessary for true implementation of governmental decrees and directives are necessary conditions that are decisive to foundation of the greatly unified society.

Governance requirements of the greatly unified society concern factors in many aspects, including whether political, economical, cultural and social systems are feasible, regional fusion, ethic fusion, character and language problems, as well as traffic, communication, media and other communication measures. System, religion, nationality, character and language problems could be solved by our efforts, so we call such conditions as soft conditions. While technical conditions like traffic, communication and media will be restricted by scientific and technological levels of the era, the greatly unified society which will strictly restrict development

of science and technology will play its role with traffic, communication and media measures at that time, and will have to get used to these conditions, rather than be able to change them, so these conditions are hard conditions, and we call them hard technical conditions, or technical conditions for short.

As soft conditions could change, while hard conditions can't, whether the greatly unified society could be governed will completely depend on hard conditions at the time, or in other words, whether technical conditions could meet requirements of global governance of the greatly unified society, and the requirement is to make sure that governmental decrees and directives are truly carried out. We will start elaboration on relevant problems in following paragraphs.

I. On True Implementation of Political Decrees

In a broad sense, true implementation of political decrees of the greatly unified society has two aspects, first, there must be laws to observe in the world and in every aspects of human society, and world regime and local regimes at various levels could be selected through legal procedures. "Laws" hereby refer to laws of the greatly unified society formulated through legal procedures, and it is binding to every person, group, organization and institution; second, all necessary decision made and actions adopted by world regime and local regimes at various levels of the greatly unified society within legal authoritative scopes could be implemented effectively and timely, and information feedback could be reflected timely also.

To research the question of true implementation of political decrees, we must get to know administrative measures and procedures first. Generally speaking, administrative measures and procedures could be divided into several aspects as follows:

1. Regime Selection

The key for regime selection of the greatly unified society is selection of world regime. If world regime could be selected successfully and could operate efficiently, then regional regimes could be successfully selected and could operate effectively.

According to regime structure generally used in human society at present, selection of world regime will have two parts in general, the first of which will be selection of heads of world government, and the second will be selection of councilor of world parliament.

In view of hard technical conditions, to select government heads and councilors truly through democratic mode worldwide will be the most difficult way to form world regime, because to select these heads by democratic mode, the first requirement is to let voters know candidates adequately, voters hereby include all people that have rights to vote, and knowledge about candidates include both their political opinions, moralities, administrative ability, and language expression and manners.

To be truly democratic in such a wide area and among so large a group, information on every candidate must be timely, quickly and vividly reflected to every voter, and voter should be able to vote conveniently and accurately, what's more, ballots should be quickly and accurately calculated, and election results could come into being fluently. Just because of above requirements, democratic election has much higher technical

requirements than non-democratic election. Non-democratic election needs discussion within a small scope only, power successor could come into being even by appointment of special staff, so technical requirements of non-democratic mode are not very high.

2. Report of Political Information

The so-called report of political information means that all important issues about living, life, work and study of the general public could be swiftly reported to governmental departments at various levels through multiple channels, then local regimes will timely report the issues to the highest governmental department—department of world regime.

3. Issuance of Political Decree

According to summary and research of political information reported from different regions, relevant departments of world regime will prepare various measures, and decide to adopt various actions within their authority. Some of these measures and actions need to be jointly implemented worldwide, some need to be implemented by some groups, some needs to be implemented by governmental organizations at various levels, and some will be directly implemented by world regime itself. Meanwhile, contents of some political decrees might be new requirements on existing laws and regulations. No matter what decree it is, the political decree must be sent to staffs that will implement the decree, without any delay or change in the process, particular decree about coping with natural disaster, man-made disaster and social upheaval, under which conditions, political decrees of world regime will be required to be sent to relevant staffs directly.

4. Implementation of Political Decree

Implementation of political decree directly follows issuance of political decree. Political decree issued by the world regime that manages affairs of the whole globe will be highly principled, and often needs to be broken down before sending to lower level. Governmental departments will also need to be responsible for specific implementation and operation of some decrees. No matter what kind of decree it is, it must be implemented roundly, truly and timely, no delay or revision of decree is allowed. If every government level revises political decree issued by world regime slightly, then decree will be completely different when reaching final implementation level, if every government level delays implementation of political decree slightly, final implementation of the political decree will be much delayed. The greatly unified society will have much stricter requirements on accuracy, effectiveness and timeliness of political decree implementation, because scopes covered by the greatly unified society are too wide.

5. Supervision of Political Decree

Supervision of political decree means supervision of issuance and implementation of political decree, so that to timely correct delay and deviation of issuance and implementation, and award and encourage good performers in issuance and implementation of political decree, to raise enforcement of political decree. What's more, contents of political decree supervision also include investigation into problems about issuance and implementation of political decree, such as whether political decree is practical and correct, so that to revise political decree.

II. Modern Administrative Measures

Modern administrative measures are much advanced than before. In these over 200 years after industrial revolution, with fruits of the revolution, administrative measures have undergone qualitative change. These measures could be divided into three categories in general, respectively as communication measure, traffic measure and media measure.

1. Communication Measures

Discovery of the phenomenon of electromagnetic induction provided theoretical basis for application of electricity in communication field. The earliest application of electricity in communication was wired telegram, and later appeared wireless telegram. With appearance of a series of new communication measures, telegram business is being eliminated, and many countries have even canceled telegram business.

The measure with most vital life is telephone. Communication through telephone is very direct, with strong sense of reality and intimacy, so telephone is commonly welcomed. After wired telephone, scientist invented wireless telephone, and after man-made earth satellite was sent to outer space, it become possible for wireless telephone to be used in global communication in any environment.

At present, every nation is dedicated in development of satellite communication, and the upsurge is still growing. Satellite communication systems that could cover the whole globe mainly include “Iridium” satellite communication system and “Globalstar” satellite communication system. With global satellite communication system, we could almost get rid of restriction of geomorphic conditions and could use satellite mobile phone at any place and any time. As for personal cell phone, which is convenient, swift and economical, it has been developing rapidly worldwide recently, and the prevalence rate is rising.

In aspect of telephone communication technology, there is a new development trend –optical fiber communication. Optical fiber communication uses light to replace high-frequency microwave, and optical fiber to replace cable, so communication of larger content, better quality and lower cost could be realized.

Video phone is telephone of another form. People that are thousands miles apart will not only be able to hear voice of the other party, but also see the counter party. Communication with people that is thousands of miles away is just like chatting face to face. Many countries have started use of video phone already. With market demands and further reduction of cost, video phone will be easily popularized.

Facsimile is a kind of communication measure that is connected with telephone. Through telephone network, facsimile apparatus could transmit all contents on paper, including both text and picture, to another place. Combination of facsimile and satellite communication makes real-time writing and receiving possible, what’s more, mobile telephone facsimile apparatus that use mobile phone to send and receive facsimiles has started to be used. Compared with communication technology before industrial revolution, modern communication technology has changed greatly.

In recent years, appearance of computer network has influenced communication technology revolutionarily. The largest computer network is Internet that has ten million websites and over one billion users. Multimedia communication provided by internet, which is outcome of combination of communication technology and computer technology, could present voice, image, data and text. What’s more, user could fully control the

process of information exchange. People could chat with friends on the other side of the ocean through internet, or discuss questions with colleagues at different places, or negotiate with remote customer on trade, and could also show samples and contract text in such negotiation.

Through internet, computer hardware resources and software resources could be shared. People could transact on stock market, exchange market and future market that are thousands of miles away, could send E-mail that has contents of text, image, video and voice to several receivers at the same time, could read real-time news and various other information, and could also engage in various entertainments. Virtual company, virtual school, virtual city and even virtual nation have all appeared on internet.

With popularization and application of notebook computer and PC phone, computer communication has developed from wired communication to wireless communication, benefiting from which people could enjoy real-time multimedia communication always. Internet is bringing the world to a new realm with highly developed information communication.

2. Traffic Measures

Although horse, carriage and non-motorized ship are still being used as means of transportation as old and backward traffic tools, modern means of transportation have changed people's travel modes fundamentally. Fruits of industrial revolution have not only accomplished completely new land and water traffic tools, but have also brought human being to seabed, sky and outer space.

After invention of steam engine, people started to think of the way to apply it in land transportation, to replace traditional carriage and oxcart. Earliest application of steam engine was on train. In around 200 years after invention of train, mankind experienced steam engine times, diesel locomotive times and electric locomotive times. Power of locomotive is enlarging, speed raising, and pollution and noise lowering.

In 1964, Japan built the first high-speed railway in the world, Tokaido Shinkansen Line that connects Tokyo and Osaka. Speed per hour of express train could reach 210 kilometers. France, the UK, Germany and China have also built high-speed railways following Japan. What's more, speed per hour of train is raising continuously, noise is lowering, and carriage is more comfortable.

Besides Japan, France, the UK, Germany and China that have opened express railways, Italy, Belgium, Russia, Sweden, etc. all have operating express trains. Express train Eurostar that goes through English channel tunnel has connected London, Paris and Brussels. In Apr. 2007, French express train made new record of speed – 574 kilometers/hour.

People tried to use steam engine on water transportation ship after invention of steam engine, and successfully manufactured the first steamship in 1907. Today, major power of shipping has developed from steam engine to diesel engine. With such power, maximum load of ship has exceeded 600,000 tons, weighted as a hill (for example, Emma Maersk container ship is as tall as a 12-story building, and as larger as 4 football fields connected, and its carrying capacity has reached 11,000 TEU), speed of common passenger ship and cargo ship has exceeded 30 nautical miles per hour, while speed of special ship is much higher, for example, speed of police yacht could reach 80 nautical miles per hour.

Nuclear powered ship has also appeared. Nuclear power is often used on submarine. Now, submarine could submerge into ocean trench that is thousand of meters deep, and keep under deep ocean several days without surfacing, but it's a pity that submarines are rarely used in scientific research or travel, but are generally used as weapons in war.

As a land transportation mean, automobile is widely used to replace horse. Automobile has far outweighed carriage in aspects of load, speed, comfortableness and endurance. We could see various automobiles everywhere in the world, highways stretch in all directions, particularly in developed countries. Even in developing countries like China, with continuous growth of economic strength, expressways have developed from scratch, and leaped to No.2 in the world.

Invention of plane brought mankind to a completely new time. The earlies application of plane in civil use was in 1918. Regular postal lines were opened from Paris to London and New York—Washington—Chicago. Plane has become an important traffic tool that connects the world and an important war weapon as well.

From invention to development, plane has experienced a process in which the technology content has been increasing constantly, and flying speed becomes faster. Speed of plane has reached 3,000 km/h already. In Nov. 2004, maximum speed of X-43A rocket experiment plane reached 11,260 km/h.

Speed of common subsonic aircraft that we ride on could also exceed 1,000 km/h. Flight distance of subsonic aircraft is long, for example, Boeing 747-400 could fly around 13,000 km without air refueling. Airbus A380 that was developed not long ago by European Airbus is Suburban true to its name, it could carry 800 passengers if only tourist class is provided, and the longest voyage could reach 15,100 km. Invention of aerial tanker has created conditions for long-distance flight.

After the dream of fly was realized, people started to try to go through atmosphere to fly to outer space. In 1961, astronaut Gagarin of Soviet Union entered outer space riding on “Восток-1” spacecraft, and realized mankind's dream of flying out of the earth. In 1969, Apollo Program of America sent astronauts to lunar for the first time. This was the first time that mankind landed on planet other than the Earth. On Oct.16, 2003, Chinese astronaut Yang Liwei flied into outer space by “Shenzhou V” spacecraft, and China became the third country that had rushed out of the Earth.

Meanwhile, space probes have successfully landed on planets other than the Earth and moon, such as Venus, Mars and Titan. Mankind have closely observed all the seven planets in solar system besides the Earth, and flied out of solar system. We have built space station overhead the Earth, where scientists could stay for a long while and engage in various scientific research, what's more, space station has started to receive travelers.

According to report of volume of Jan. 2007 of American monthly magazine--Popular Science, United States Marine Corps was being responsible to implement a space transportation research plan. According to this plan, landing aircraft could transport army to any place in the world within two hours. It is obvious that this plan could also be used civilly. Technologies needed in this plan, from hypersonic propulsion system to new composite material, all have been researched and developed in depth in military lab of America. It is estimated that prototype of landing aircraft could test flight 15 years later, and business type could be launched in around 2030.

3. Media Measures

Newspaper and magazines in early days were all printed at one place, and then distributed. People might read timely if they were at the place, or otherwise, they would have to wait a long time. For example, in Qing dynasty that was over 100 years ago in China, people in cities south to Yangtze River that were over 1,000 kilometers away from Beijing would have to wait three to four month to see newspapers from Beijing, so news would be out of date then. Generally speaking, newspapers and magazines would not be distributed to rural areas then. All these were because of restriction of traffic and communication conditions at that time.

Under traffic and communication conditions at that time, significant events happened near news office and magazine office could be fairly timely reflected on newspaper and magazines, while it was impossible for significant news in other places, particularly remote areas to be reflected timely.

With inventions of remote and real-time communication measures, such as telegram and telephone, communication situations have been changed fundamentally. Both news communication technology and magazine printing technology have developed greatly.

Today, news of various places could be sent to news agency, news office or magazine office at any time by E-mail, fax and telephone. What's more, application of modern computer editing system combines communication technology and computer technology closely. Journalist and editor could directly edit manuscript on the display, central computer system of news office or magazine office could receive information from any place in the world, what's more, the information could enter computer phototypesetting system directly and edit into print area itself. Benefiting from application of satellite communication technology and optical fiber communication technology, global news has get rid of restriction of regional and topographic conditions, and definition, accuracy and confidentiality are all better.

So important news at any place of the world could immediately appear on newspapers and magazines worldwide. Printing and issuance of newspaper and magazine are completely different from traditional modes also. Editorial office will send print area to different places to be printed there, so large newspaper office and magazine office could all be able to send publications to readers on the day of publication. In developed countries, most rural areas could get newspapers and magazines on the current day; in developing countries, at least most large and medium cities are able to do so. The timeliness and reliability of news can't be even imagined dozens of years ago.

Appearance and application of broadcasting and television are major breakthroughs to traditional medias. Because of directness and popularity of broadcasting, wireless broadcasting became the most popular media measure soon after it was invented. Prevalence rate of wired broadcasting is also very high, particularly in communist countries like Soviet Union, eastern European communist countries and China, where wired broadcasting is widely used in news spreading. Television develops concurrently with broadcasting.

Broadcasting and television form a historical breakthrough to traditional medias, and broadcasting and television technologies have been developing at high speed. Invention and development of broadcasting and television have changed people's life greatly. Take television as an example, even in China—a developing country that is not very rich, almost every family has one television, and prevalence rate of television is very high even in remote poor areas. Television has become an indispensable part in people's living.

With invention and development of satellite communication technology, broadcasting and television are almost able to rebroadcast every news event live not matter where it happens, such as rebroadcasting the climbing of

Qomolangma on land, probing seabed in ocean, astronaut's landing Moon, Martian rover's landing on Mars and space detector's entering atmosphere of Titan. Because of directness and sense of reality, influence of broadcasting and television has exceeded newspapers and magazines.

Another important breakthrough of medias is appearance of internet. We can read news of various famous newspapers, magazines, news agencies, broadcasting stations and television stations in the world through internet, as well as news and information issued by governmental organs, institutions, enterprises, schools and research departments, what's more, the information is provided with text, image and voice together. The timeliness, popularity and sense of reality have brought convenience to various readers, so internet is another historical breakthrough to media measures.

III. Political Decrees of the Greatly Unified Society with Modern Measures

1. Regime Selection

Political decrees are issued by political organizations. Regime will be engendered in due process in the greatly unified society. Evaluated by today's political values, the greatly unified society must be democratic, because democracy is common value of present society. Judged by present values and political concepts, democracy will also protect long-term stability of the greatly unified society.

Democratic selection of regime will have a voting process, no matter it is direct deliberation system or representative deliberation system. To select governmental official or deliberation staff, voters must learn candidates first, in such aspects as political opinion, political performance, manner and behavior, and morality and family that voters often concern about.

Thinker Aristotele who lived in city-state era in Greek described ideal country in his work Politics as that population and land area of ideal country should be proper, which meant that one could see boundary of the country, and could hear herald's voice in peacetime and command of the highest commander in war time. According to his description, population of ideal country won't exceed 10,000 to 20,000. The reason for Aristotele's thought was democratic consideration, because only in very small country can everyone participate in national events directly, and cast a holy ballot according to his own judge in selecting official of the country.

But his student Alexandria built a large monarch country that traversed Europe, Asia and Africa.

In modern times, many large democratic nations whose population was over hundreds of millions and land area over millions of square kilometers appeared. It was obviously impossible for such large nations to adopt direct deliberation system in the past, so they generally adopted representative system, which meant that voters selected representatives that could express opinions on behalf of them to make up representation organ, and took part in political deliberation indirectly. As for selection of governmental leaders, some voters will cast ballots directly, and some will vote through representatives.

The election of largest scale and widest scope in the greatly unified society will be election of leaders of world regime and councilors of world parliament, the voters will be the whole mankind, and voting scope is the whole world. Its scale and scope are both much larger than any election in national society in human history.

To be truly democratic in election of such large scale, every citizen that is titled to cast ballot should be able to cast the holy ballot objectively, fairly and according to his own will. To attain this purpose, the prerequisite is that every voter is able to know the candidates, which means that voter should know administrative policies, political opinions, behaviors, manners, appearances and moralities of candidates.

To realize the target in whole world was unimaginable even if it were tens of dozens years ago, but present measures are completely able to do so. Candidates could present their political opinions through broadcasting, television or internet, their appearances, behaviors and manners will be sent to everyplace in the world. If some candidates want the voters to be able to feel their charms, they could fly to every place to meet voters, and the time needed to fly between any two places will not exceed a day and a night.

Voters could cast ballots in a designated place, or cast separately at home through internet. Internet system could confirm identities of voters and effectiveness of ballots scientifically and strictly, global effective ballots could be rapidly processed by central computer system, and statistic result of billions of ballots will come out in a few seconds, or even shorter time.

Many scholars think that under present conditions of information spreading, no matter how large a country is, it will be able to adopt direct deliberation system if it has used modern scientific technologies fully, and all state polities could be decided by referendum. Democratic ideal that could only be realized by small nation and population visioned by Aristotele could also be realized in the greatly unified society, but it all depends on whether it is necessary.

2. Report of Political Information & Issuance of Political Decrees

Comprehensive consideration of reports from various places will be basis for policy making. The highest authoritative organ in the greatly unified society will be relevant organ of world regime, and the organ that is responsible to collect reports from various place will be some relevant organ of world regime also.

In the greatly unified society, political information will come from various places, and involve various aspects including politics, economy, society, culture, nationality and religion, and the whole mankind will be related. Correctiveness and timeliness of decision will be determined firstly by that whether political information of various places could be timely and accurately reported to relevant department of world regime. Some situations need to be dealt with immediately, without any delay, for example, disaster relief will be required immediately after occurrence of natural disasters, such as earthquake, flood and tsunami, large scale crime and social turmoil should be quelled immediately. If these circumstances can't be timely reported to relevant department of world regime, and measures can't be adopted decisively, then a series of very serious results may be caused.

Magnitude of earthquake happened in Tangshan, China in 1976 hit 7.6 on the Richter Scale, 240,000 people lost their lives suddenly, and nearly a million people, many of which were pressed under debris, needed rescue. How to report the disaster to central government became a problem. Tangshan was less than 200 kilometers from the capital Beijing, but as telephone wire was damaged in earthquake, and there was no satellite

communication then, reporter had to intercept a truck to went to Beijing, and spent six to seven hours from Tangshan to Beijing. It was just 30 years ago.

It obviously won't work in the greatly unified society to report disasters this way, there must be some efficient communication measure to timely report and rescue natural disasters, or otherwise, loss of lives and assets will be unimaginable.

In fact, present communication measures are completely able to do so, telephone, fax and E-mail all could immediately send information to any other place on the Earth.

Under such communication conditions, political decrees could be issued conveniently, no matter it is oral issuance or issuance in image or textual forms, the political decree could be sent immediately. Even if the original document is required to be sent to executor, the decree could be delivered there in one or two days by such transportation measures as airplane, train and automobile.

Issuance of some decree will need to convene meeting. If people from various places are required to attend a meeting at a fixed place, then time spent from starting out to arriving at the meeting place will be one or two days in general. It was impossible to hold such global conference before the industrial revolution, because from notice to open of the meeting would need at least one to two years time at that era.

What's more, there are many meeting modes at present. If people are not required to gather at a fixed place, and the meeting is very urgent and should be convened immediately and attended by relevant staffs worldwide, then telephone conference, television conference or internet conference could be adopted.

Science and technology are making the world smaller and smaller. People often compare the world we live in as a small village—the global village.

3. Execution and Supervision of Political Decrees

Execution and supervision of political decrees are closely related to traffic conditions. We may take natural disaster and large scale crime and social turmoil as examples, and analyze from this point.

Under modern traffic and transportation conditions, when earthquake or flood happens at a place, and world regime decides to allocate disaster relief staffs and materials, the first group could adopt airfreight under urgent conditions. Under most unsatisfactory conditions—allocating materials from the farthest place, only a day and a night will be needed. In fact, world government will allocate staffs and materials to cope with such accidents reasonably in the whole globe, and allocate staffs and materials from a place nearby. The first group of staffs and materials could be transported by air, and the coming relief staffs and materials of large scale could be transported by train or ship, which are both very convenient under modern traffic conditions.

To cope with large scale crime and social turmoil, the government will mobilize army whose reaction is very quick and could come and go at the government's order. In the principle of proximity, rapid reaction force could arrive soon by air or land transportation.

As for supervision of political decrees, staffs in different organs of world regime could go to local areas to check and supervise the execution, and timely report what they learn to relevant departments of world regime. Under convenient traffic conditions and real-time communications at present, government supervisors could fly

to every place of the world to carry out examination and supervision work. The time spent on the way will not exceed one to two days in general.

If situation of supervision needs to be timely reported, then supervisor could use cell phone, or use notebook, cell phone facsimile apparatus to send relevant images and texts. If personal report and research are needed, then the time spent on way will be one to two days at the most.

To ensure thorough implementation of political decrees, supervise and guide various regions, organizations and relevant staffs to execute governmental decrees actively and consciously, people should fully understand importance of every political decree, so various publicity and education work are needed, and various medias will play an important role in this aspect.

Various convenient media measures will be a reliable guarantee for effective governance of the greatly unified society. Newspapers and magazines could be sent to every place in the world in the current day of publication, news of various places and policies made by governments could appear on newspapers on the current day also; various broadcasting televisions could not only broadcast policies and decisions made by governments, but also broadcast speeches lively worldwide if political leaders think it necessary. By vivid elaboration of leaders, people could deeply understand intension of the government; internet is a kind of important media measure, because of its prevalence and large amount of information, internet is an important measure for world regime to publicize its policies and make sure that they are implemented thoroughly.

It has improved that modern science and technology have provided powerful safeguard to fluent political decrees in the greatly unified society, which is a necessary and sufficient hard technical condition for efficient governance of the greatly unified society.

As we know, Zino, Kant, Marx and Engels all had put forward the thought about unification of mankind, but technical conditions for great unification of mankind were not ready. Even in the ear of Kang Youwei, technical conditions for global management were still very awkward. Only over 100 years ago, the traffic measures, communication measures and media measures were very difficult to govern a large country, but today, all these have changed fundamentally.

What needs to be clarified is that, advanced traffic, communication and media measures that we have today could only improve that present technical conditions could meet requirements of governance of the greatly unified society, and previous elaboration is based on the condition that these scientific and technological fruits could be popularized worldwide. However, these technical fruits are not popularized in fact, particularly in many poor nations and regions where people are living primitive lives, modern scientific and technological fruits haven't been spread there. To govern the greatly unified society effectively, these scientific and technological fruits must be popularized to every region and group in the world, which could be realized by human efforts. What needs to be explained is that popularity of these scientific and technological results doesn't go against strict restriction of development of science and technology, because these scientific and technological fruits are existing fruits rather than further development of science and technology.

Section II: Most Fundamental Reform with Smallest Resistance

When we are clear that technical conditions for great unification have been mature, we will know that great unification of mankind could be realized by reasonable efforts of mankind. But there is still a problem of degree of difficulty even if the great unification could be realized by efforts of mankind, if undertaking of the great unification is very difficult to be promoted, and is in the indefinite future, far beyond the period in which extinction means will appear, even far beyond the time when mankind will get self-extincted, then promotion of great unification will be meaningless. So it is necessary to practically analyze magnitude of resistance of the social reform.

I. Cruelty of Social Reform

Throughout human history, social reform is always connected with bloody killings. Cruelty is same for regime change of small country and social reform that is influential to regions or the world.

The basic reason for why social reform always express itself in very cruel mode is that conflict between the party that wants to keep old system and the party that hopes for reform is life-and-death struggle. Major form of social reform is replacement of ruling class in old social institution by ruling class in new social institution. The ruling class will use is ruling position to maintain interests of itself and some certain groups, these interests include economic interest, politic interest and cultural interest. But no matter what interest it is, it belongs to scope of happy value.

If social reform really happens, after new ruling class replaces old ruling class, happy value of old ruling class and interest groups it represents will be deprived, and the deprived happy value will be acquired by new ruling class and interest groups the new ruling class represents. Generally speaking, some people will lose happy value, while others many acquire happy value in social reform. So that party that will lose happy value will certainly try everything to protect its interests, while the party that will acquire happy value in social reform will certainly try to make the reform happen.

This is just start of the question. While protecting its interest, the party that will lose happy value will use measures beyond scope of happy value. The ruling class will use its advantageous position to exile, imprison and torture reformers to deprive happy value of reformers, and will also use measures that will deprive survival value of people, such as killing, or even killing families, friends and partisans to stop the reform.

Likewise, reformer is completely clear that purpose of reform is to win happy value, and to deprive happy value of the ruling class, but the measures used will not be limited to scope of happy value. The purpose will not be realized if ruling class is not completely defeated and thoroughly toppled, so the measures featured as depriving survival value, such as assassination, terrorist attack and war will be used inevitably.

Although all reforms originate from happy value, the measures used include both measures within happy value and measures beyond happy value. The measures used include measures in scope of survival scope, or in other words, all important values are involved, so conflict in social reform is very serious. Just because of this feature, every great social reform is very difficult, as the ruling class will use every measure to protect original system, and measures and resources controlled by the ruling class have obvious advantages.

There is also another reason for why great social reform is very difficult. To maintain its ruling, the ruling class will enforce a series of policies, measures and methods, and use various measures to influence people's understanding and thought, to let people agree to rationality and legality of the ruling system, so it is doubtlessly very difficult for people to accept a system that is more scientific and reasonable. In history, people will use over 100 years to accept a new thought, but the thought would still need hundreds of years to change the world.

For example, renaissance movement's flag is to revive European classical civilization, but its real purpose is to topple feudal theocratic rein of Catholicism. As feudal rein of Catholicism had greatly influenced people, it was very difficult to topple the rein, and various conditions should be created, the process for waking up was quite long. As the first thought liberation movement in modern human society, it took 200 years, from the 14th century to the 16th century, before it functioned practically. During this period, many thinkers and scientists were murdered or persecuted, and final success of the movement was realized through war.

The enlightenment movement that was lunched later and called the second thought liberation movement took over 100 years from initiation to when it functioned practically.

The enlightenment movement in the 17th and 18th centuries directly aimed at the black Middle Ages, enlightenment thinkers held high the banner of rationalism, refuted feudal social institution and political institution, attacked dogmatic theology, and put forward systematic theory and assumption to found rational society and nation, thus paved road for foundation of modern democratic nation both in aspects of thought and theory. Success of enlightenment movement is symbolized by a series of great revolutions and wars, including American revolution, French revolution and Napoleonic war, in which millions of people were killed or injured.

Just because this social reform will be more profound, it will be crueler than normal reforms, and time required for thought preparation will be very long. Besides over 100 years of enlightenment movement, renaissance movement was prelude of the social reform also, then preparation time for the reform is around 400 years.

The communist movement is same. Communist movement aims to topple rein of capital class, to set up socialist nation dictated by proletariat, so fierceness of the social revolution is certainly doubtless, and that the social revolution needs quite long preparation time and will certainly use cruel measures .

The earliest assumption of socialist thought could be retrospected to Eutopia written by More in the 16th century, the pursuit of a kind of ideal society and quest for socialism lasted for hundreds of years. In fact, the process of questing was also a process of thought spreading. In the 19th century, Marx and Engels' scientific socialist thought provided theoretical basis for foundation of socialist regime. Because of further spread of the thought, socialist nation is finally founded, and socialist flags once flew over half the world.

Cruelty in the process for foundation of socialist regime is very obvious. Foundation of almost every socialist nation was accompanied by bloody war and armed uprising. After foundation of the first socialist regime, regime of Soviet Union, it immediately encountered armed interference of capitalist countries. From foundation of the regime, to maintenance in early state and stabilization later, the regime experienced a very difficult process. While casualty in the war for foundation of Chinese socialist regime was millions. This is completely because in such social revolution, requirement of current ruling class is opposite to interest of the group that

asks for revolution, and acquirement of interest of one party means lose of interest of the other party, the interest conflict is tit for tat and life to death.

II. Consistency of People's Interests in This Fundamental Reform

Generally speaking, the larger the scale of social revolution is, the more difficult it will be, because ruling vested interest group will try everything to keep current system, while the party that seeks for revolution will need a quite long time to accumulate strength, and social revolution will be realized when balance between the parties is broken. It's doubtless that because of the serious interest conflict, one party will try its best to maintain current system and the party that seeks for revolution, every social revolution is very difficult, long and cruel, which will be more obvious as scale of social revolution is larger and larger.

Scale of the social reform from national society to the greatly unified society will be larger than any previous social reform, because all previous reforms happened within national society, some of these social reforms were within the nations, while others involved merger, split and reconstruction of nations, but any way, these reforms were within national society. While the coming reform is the transfer from national society to the greatly unified society, which is fundamental change of social morphology. Its precondition is perishment of all nations. Scale of the reform will be unprecedented, and its significance will not only be unprecedented, but also unrepeatable. Whether the unprecedented significance means unprecedented difficulty, cruelty and long time required of the social reform?

As we know, we have no other choice but great unification, because if great unification is not realized, development of science and technology will not be restricted truly, and mankind will soon be extincted. So this social reform concerns overall existence of mankind and fundamental interest of everyone. Though disaster brought by science and technology may not threaten us directly, our offspring will be related.

What's more, the greatly unified society will bring common happiness to the whole mankind. When great unification is realized, human society could be built as a non-competitive society, and ethic fusion and religious fusion will both become possible; development of science and technology is restricted; meanwhile, the greatly unified society is suitable for policy of equal prosperity. All these will make the greatly unified society into a society without competition pressure and knowledge updating pressure, a society with rare war and crime, and also a generally prosperous society in which everyone lives healthily and for a long life (these points will be further elaborated in following sections). So the great unification will not only ensure overall existence of mankind, but also ensure realization of overall happiness of mankind.

So the greatly unified society will benefit all out descendants, everyone could enjoy benefits of realization of the most important value brought by the greatly unified society, no matter which class or group he belongs to. So all the classes and groups share wide conformity in the undertaking of great unification, and there is no fierce conflict as that one party's gain of interest will mean loss of another party.

Although undertaking of the great unification has common basic interest for the whole mankind, basic interest often conflicts with viewed interest, or in other words, long-term and basic interest of a person or a group is often inconsistent with the instant and surfaced interest. Long-term and basic interest will be understood by wisdom and thinking, and only rational ones will be resolute to insist and protect such interest, while instant

and surfaced interest will be insisted and protected by most people, even if the former is much more important than the later, there will still be many that will sacrifice the former for the later. So in the process of promotion of great unification undertaking, there will certainly be a group of extremely selfish ones to step out to block the wheel of history.

III. Resistance Analysis

If resistance for reform from national society to the greatly unified society mainly because viewed interest of some groups will be harmed in the process of reform, then viewed interests of which groups will be harmed in the undertaking of great unification, and how large resistance will thus caused? To make this question clear, we can start analysis from following contents.

First, as for common people, the biggest beneficiaries in aspect of viewed interest will be poor countries, particularly medium and small poor countries.

The major reason for poverty of poor countries is that these countries were treated unfairly in history, some of them were ravaged by wars, while others had been bullied by colonialists, all these make them far lagged behind modern civilization. Backwardness leaves these countries vulnerable to harms, in cruel international competition, the poor will become poorer, because rules of international competition are formulated by rich and powerful nations. What's more, competition in modern society is actually competition of science and technology, but medium and small poor nations are extremely short of capital, talent and management ability, their ability in technology development, particularly technical innovation and transfer of science and technology to productivity is very weak, and modern civilization has been far away from them, so their backwardness and poverty are obvious.

When great unification is realized, the world will be uniformly governed by world regime, poor areas will receive fair treatment and help from the whole world, and management of these areas will gather global wisdom. What's very important is that, though development of science and technology will be restricted in the greatly unified society, present safe and mature science and technology will be popularized and applied. In national society, those medium and small poor countries are unable to do the promotion and application, but in greatly unified society, with global talents and wisdom, the most suitable scientific and technical results will be popularized and applied there. With such promotion, application and popularization, these areas will soon shake off poverty and step to richness.

Second, rich nations needn't to make special sacrifice to the great unification undertaking.

When the great unification is realized, people will easily think that benefits of poor countries are because of aid and sacrifice of rich ones, then will people in rich countries suffer great losses thus? Actually not, because development of poor countries mainly benefit from popularization and application of safe and mature scientific and technical fruits at present. The major investment will be investment in technical talents and management talents, talent cultivation and aid do need investment, and rich nations need to make sacrifice while fulfilling their duties, but compared with direct economic help, such investment is much less, and investment of the rich countries will be returned through other ways.

As we know, in national society, confrontation between nations often express as war, so every nation gives top priority to military construction and investment, and military spending is very large. In the greatly unified society, the whole globe is an integral whole. Confrontation between nations will disappear with perishment of nations, ethic and religious fusion, and foundation of non-competitive society, war and crime will be rare in human society, main tasks of army are to maintain social stability and rescue in natural disaster, so military spending will constitute just a small part of social spending, even less than one tenth of present military spending in general, which means that over ninety percent of present military spending could be invested in other aspects, such spending will be very considerable capital for development of poor areas.

In fact, the greatly unified society could save fees in other aspects also. For example, with perishment of nations, the top authoritative organ will disappear, and there will be one top authoritative body—world regime left, so there is only one top authoritative system also, which will greatly reduce expenditure of administrative fees. Another example, with perishment of nations, barriers for international exchanges between different regions will disappear, particularly trade barriers, which will save various expenditures. If these expenditures saved could be used to help poor areas, then poor areas could shake off poverty.

Third, people is moderately well-off nations will benefit greatly in aspect of economy, and people in rich nations will also benefit to a certain degree.

After the world is unified, with popularization and application of safe and mature scientific and technological fruits at present, the world will tend to be an equally prosperous world, the richness degree will be similar to or slightly higher than level of developed countries at present. The reason for why developed countries are rich is that they have applied most advanced science and technology widely, if these advanced sciences and technologies are widely applied everywhere in the world, then the other areas will be as rich as developed countries at present.

What's more, some scientific and technological fruits haven't be applied yet, these fruits will certainly be popularized and applied. Not any developed country could have the most advanced science and technology in every aspect, the greatly unified society will collect the most advanced science and technology, and apply uniformly, so the science and technology used then will be more advanced than any developed country at present. So people's living standard in the greatly unified society will be even higher than developed countries at present. People in moderately rich countries will greatly benefit from great unification, and people in rich countries will also benefit from great unification to a certain degree.

Fourth, viewed interest of leaders at middle and low levels will not change greatly.

When the great unification is realized, if leaders at medium and low levels are still within their tenures, scopes and industrial departments within their management scope will not change greatly, there are leaders and management departments at higher levels, so their viewed interest will not change seriously in aspects of size and scope of power.

Fifth, top leaders and top leading class of medium and small countries will lose most viewed interests, while top leaders and top leading class of large nations will be the largest beneficiaries.

In national society, the highest authority body is nation, decisions and behaviors of the top leaders and top leading class will not be interfered or influenced by higher level, because these decision are final. They not only enjoy the honor and right of the top leaders, but also enjoy many privileges and viewed interests.

In national society, many nations co-exist with each other, every nation has its own top leaders and top leading class, but when great unification is realized, there will be only one highest authoritative body, top leaders and staffs in top leading class will both be very limited, in the process to promote great unification, the possibility for medium and small nations to act as leading actors in the undertaking of great unification will be very small, so it will be more possible that they will lose rights and privileges because of realization of the great unification, and what they lose will be top rights and privileges. So their loss of viewed interest is the largest.

While situations for top leaders and top leading class of large countries are just opposite. Generally speaking, large changes of political map are always driven by large countries, the significance of transform from national society to the greatly unified society will exceed any social reform in history, so it's doubtless that this social reform will be driven by strength of large countries, and top leaders and top leading class of large countries will definitely play as leaders and leading groups in the transform.

What's particularly important is that the undertaking of great unification will save mankind, and bring common happiness to the whole mankind. Its justness is definitely unprecedented. To act as an leader in such a meaningful undertaking will be dream of any competitive political leader. If they could achieve some accomplishment in the undertaking of great unification, these leaders will leave names on the scroll of fame, while people that are most possible to be able to shoulder this heavy responsibility will be top leaders and top leading class of large countries, so they are the largest beneficiaries in the undertaking of great unification.

To sum up, the greatly unified society is not only beneficial to the whole mankind, common people could benefit from the undertaking of great unification in aspect of viewed benefit also, people in poor countries, well-off countries and rich countries could all benefit from this process. If they are educated about this truth, they will become the most large-scale strength that will push the undertaking of great unification, and this strength will form a powerful torrent.

Among leading classes, leaders at medium and low levels will not lose many rights in aspect of viewed interest, and will be beneficiaries of economical benefits to be brought by the great unification undertaking. What's more, the great unification undertaking will save the whole mankind, and benefit everyone in aspect of basic interest, so they will become supporters and promoters of the great unification undertaking.

The largest resistance for the great unification might come from top leaders and top leading class of medium and small nations that are many, because they will lose both powers and privileges. I think quite many of them will obey rightness of the whole mankind, and become promoters of the great unification undertaking, but a small part of them which are extremely selfish will overlook overall existence of the whole mankind and happiness of our posterity, and keep to their powers and privileges, becoming clowns that block the great unification undertaking.

If these people are against the great unification undertaking, the resistance will be quite large. They will use the convenient conditions as top leaders and top leading class, try everything to mobilize national people to block process of the great unification, and will disturb people's understanding, making people unable to recognize

necessity and feasibility of the great unification and various practical benefits the great unification may bring, so these people will become major and also the strongest power to resist the great unification undertaking.

To the contrary, top leaders and top leading class of large countries will probably become active promoters of the great unification undertaking, because they might become the largest beneficiaries in the great unification undertaking. What's more important is that, these people will have very strong power, they will use the conditions as top leaders and top leading class of the large countries, and mobilize the whole nations to support the great unification undertaking. Meanwhile, power of large country is not limited to itself, large countries could lead and influence some regions and even the whole world. Though there are just few large countries in the world, their power is worldwide, and their ability is incomparable for some small countries.

Top leaders and top leading class of large countries will not only be possible to drive process of the great unification, but also be the most capable strength to promote the process. If top leaders of some most powerful nations decide to act jointly, the world could change fundamentally, so they are the most reliable strength for the great unification undertaking.

Above analysis shows that, though the transform from national society to the greatly unified society is unprecedented social reform in human history, resistance for the unprecedented social reform will be relatively small, because basic interest of the whole mankind is same, and viewed interest of mankind is widely consistent, what's more, top leaders and top leading class of large countries, the most powerful groups, are the largest beneficiaries in aspect of viewed interest.

Section III: Rehearsal of the Greatly Unified Society

Human world is very complicated, and many problems have been perplexing us. At present, the most serious problem that people have realized should be war. Besides, there are many problems such as crime, environment, resource and poverty. It is impossible to solve these problems with strength of one nation, so people long have desired to harmonize and unify global actions. Many international organizations were founded as time required. For example, the United Nations is the most representative international organization. As an international organization, the UN has been dedicated to harmonizing stands of the nations and unify global actions, and have made great contribution to this purpose.

Meanwhile, world economy is heading towards integration, commercial trade has long broken through boundaries of nations, no market of any country is independent, every of them is part of global market and is merged in the world. To unify world market and harmonize world trade, the World Trade Organization (WTO) was set up, and many regional trade organizations also appeared as time required. Integration of the world is independent from man's will in some aspects, and it is breaking through restriction of nations.

The series of global actions of international organizations and the fact that world economy is heading towards globalization all share certain features with the greatly unified society. Although actions of international organizations are not direct pursuits of the greatly unified society, nor the trend of globalization is result of people's pursuit of great unification, these actions and the trend are actually some trials of operation modes of the greatly unified society, and have tested technical conditions of governance of the greatly unified society to a

certain degree. So we may deem such actions and trend with certain features of the greatly unified society as rehearsal of the future greatly unified society.

We call the actions and tend as “rehearsal” because they share certain obvious features with the greatly unified society. By research and analysis of these actions and trend, we can better understand features and objective development trend of present human society, as well as influence of present technical conditions to future global governance, so that to understand possibility of realization of the greatly unified society more objectively.

I. International Organizations and the Greatly Unified Society

After the World War II, many international organizations spring up like mushrooms, the most influential regional international organizations should to be NATO led by America and Warsaw Treaty Organization (WTO) led by the Soviet Union, which were also two confronting military groups in fact. Besides, influential comprehensive regional international organizations also include the European Union, Association of South East Asian Nations, League of Arab States, Commonwealth of Independent States, etc. There are also some special regional organizations that are very influential also, such as the Asia Pacific Economic Cooperation (APEC) and Organization of Petroleum Exporting Countries (OPEC).

The most influential international organizations should be the UN and World Trade Organization (WTO) that is called economic UN. Besides, some special organizations are very influential also, such as the United Nations Educational Scientific and Cultural Organization (UNESCO), World Health Organization (WHO) and International Monetary Fund (IMF).

Meanwhile, many non-governmental international organizations, such as the International Union of Students, International Youth Fellowship and Greenpeace International, are trying to play their roles.

There are various international organizations that are countless. These organizations are all founded upon requirements of various groups and governments of the nations. Analysis of tenet and purpose of these organizations shows that some regional international organizations were founded to raise collective competitiveness of member countries, some are to raise military competitiveness, some are to raise political competitiveness, and some are to raise economic and resource competitiveness. The so-called competitiveness is confrontation ability in fact. So tenet of regional international organizations is inconsistent or even goes against with target of the greatly unified society that seeks to protect basic interest of the whole mankind through uniform global action.

Tenet and purpose of global international organizations which are generally founded upon common demands of the countries are different from regional international organizations. These demands are generally about common interests of the whole mankind. Organizations like the United Nations are founded because of people’s deep understanding of disaster and pain brought by wars. Tenet and purpose, as well as work direction after foundation of global international organizations are fairly consistent with target of the greatly unified society for the whole mankind. No matter how effective the work of global international organizations is, work direction is actually quite consistent with work direction of the greatly unified society in the future. What’s more, technical measures adopted by international organizations in work will also be quite consistent with

technical measures to be adopted by world regime of the greatly unified society. So, by observing development of work of present international organizations, we can get certain general pictures of the greatly unified society in the future.

Take environmental problem as an example, environmental protection is a common issue faced the whole mankind. Serious environment pollution and forest and grassland devastation, as well as a series of negative environmental effects are making people more and more worried. Such problems will continue to be global focus, as well as major work content in the greatly unified society, to which world regime must pay great efforts.

The United Nations that is also dedicated to harmonize global actions started to pay attention to the problem as early as in 1960s, and had convened meetings for this purpose many times and had approved a series of environmental protection resolutions and conventions. Because of the series of actions adopted by the United Nations, the environmental protection target of "saving the Earth" has been deeply rooted in people's heart worldwide.

Population problem is also an important question faced by mankind. Because of development of medical treatment and technology, and very backward birth concept and birth control measures, world population grows rapidly, what's more, the growth is accelerating and called "population explosion". Population issue will continue to be an important social problem in the greatly unified society, and even more important in the greatly unified society than in national society, because development of science and technology will be strictly restricted in the greatly unified society, we will not be able to get more foods and resources through development of science and technology, if population is not controlled, whole mankind may have to endure hunger. The United Nations set up Population Commission as early as in 1947, had reminded the world to pay attention to population problem many times on various meetings, and even convened several special meetings on population problem and approved a series of resolutions and action programs.

The United Nations has been making great efforts to solve poverty problem and terrorism problem, protect human rights, and control drugs, has convened several global meetings, and has been doing a series of work energetically. All these problems will not be solved in a short period, so the greatly unified society will continue to make great efforts to solve these problems that concern interest of the whole mankind.

The United Nations is an international organization with the widest representation in human history, as well as an international organization that could best represent interests and able to protect basic interest of the whole mankind. In over 60 years since foundation of the United Nations, it has indeed made great contribution to overall benefits of the whole mankind. By analyzing work method and features of the United Nations, we will find that to pass a resolution that is favorable to the whole mankind, the United Nations always negotiates multi-laterally with the nations, then convenes voting meeting after repeated debates and obtaining general agreements of large countries. Voting meeting is actually routing approval procedure. The process of convening voting meeting is very simple, and there is not any technical problem. With agreements of the nations, over 100 members in the world could immediately hold a meeting at any designated place.

UN Millennium Summit held in headquarters of the United Nations in New York during Sep. 6-8, 2000 was a typical example. State heads or government heads of over 150 nations attended the summit. Vehicles in fleets of state heads or government heads were over 1,000, and New York police mobilized 8,000 policemen.

From Sep. 14-16, 2005, to celebrate the 60th anniversary of the United Nations, state heads of over 160 nations gathered at New York headquarters of the United Nations again. This was the UN summit of the largest scale since foundation of the United Nations. Reporters for interview of the summit were over 3,000. Summit of such large scale represents real globality.

This summit was very fluent both in aspects of agenda implementation and security assurance. But approval for relevant files before the summit was very difficult. The most important file for the summit was Outcome Document Draft. To prepare this document, the United Nations specially set up a core team consisted of 32 nations including America, China and Russia. But after months of work, the core team still couldn't reach consensus. The Outcome Document Draft was narrowly passed on the day before the summit. The approved document had been shortened from previous hundreds of pages to 35 pages, and some important topics, such as disarmament, development, definition of terrorism and denuclearization, were all excluded.

These truly global summits, such as UN Millennium Summit and summit held to celebrate the 60th anniversary of the United Nations, could be successfully convened, and agendas were successfully finished, the prerequisite is convenient traffic and communication at present. Such summits are impossible to be held under technical conditions 100 years ago. The United Nations had certainly made a lot of harmonization and liaison work before the summits.

In fact, benefiting from convenient traffic and communication, the United Nations has very efficient implementation of global actions, including peace keeping and disaster relief, the action could be immediately adopted after the nations reach consensus. Peace keeping force could rush to target area rapidly, and disaster relief materials could be organized and transported to target area quickly also. What are really troublesome and time consuming are harmonization and negotiation before decision is made.

By analyzing and comparing global international organization like the United Nations and world regime of the greatly unified society, we will find following similarities and differences in their decision making:

1. Before any decision making, the United Nations will always make great efforts to harmonize standpoints of nations. The harmonization will be a quite long process, so it is very difficult to make decision, particular decision about serious problem. The decision can't be made, if one or two key nations disagree with the decision, or otherwise, the decision can't be implemented even if it is made.

World regime of the greatly unified society will need to harmonize standpoints of different regions also, because different regions will have different situations and regional benefits. But world regime will be the only regime then, with certain compulsory administration rights endowed by laws of the greatly unified society, world regime will make decision if the regime thinks it necessary, and there will not be much delayed decision, so opinion collection will be quick.

The United Nations shares a similarity with the greatly unified society in the process of convening conference and voting--the process of convening global conference and voting is very quick after the nations reach consensus, because we enjoy convenient traffic and communication conditions, as well as other hardware technical conditions for political governance.

2. Decision making process of the United Nations involves various factors of power politics. Many decisions will not be passed if one country disagrees. There are 192 member nations in the United Nations at present. I

believe that America could influence many other members on some important issues, so America could make the United Nations give up many decisions.

In the greatly unified society, different regions will be truly equal. If the rights or voting weights do have some difference, that will be difference corresponding with different populations of the regions, or difference corresponding with economical and cultural situations of the regions, and such difference will be very limited. Not any region will be possible to influence the world regime then.

3. A nation's influence in the United Nations is decided by its military strength to a great degree. A large military country could often influence decision of the United Nations to a large extent, which is actually expression of power politics. In the greatly unified society, no region will have independent army, because allowing the region to have independent army means indulgence of division. Army will be directly controlled by the world regime in the greatly unified society, so it will be impossible for the regions to influence decision making of world regime by military measures.

4. Among all works of the United Nations, war issue and disarmament issue have always been the most important problems that are dealt with often, also the problems with most disagreements, as well as problems that are most difficult to be dealt with and could never be handled properly. Every decision on these problems will be very difficult to be made, and will often ends up with nothing definite. While in the greatly unified society, there will be no problems of army or armament, problem of army led by world regime and set up according to laws in the greatly unified society will be a very secondary part of daily work of world regime and will need little time to deal with. The army is to cope with crimes and small scale wars caused by separatists.

5. Decisions of the United Nations are often issued in the forms of declaration, statement, convention, treaty, agreement and protocol, which shows that decisions of the international organization will only be implemented on wish of the nations. While decisions of world regime in the greatly unified society will certainly be issued in the forms of order, decision, requirement and instruction, because the world regime has the rights to do so. So the implementation will be much more thorough in the greatly unified society.

6. In national society, every nation has independent sovereignty, so the nation could implement or refuse to implement decision of the United Nations as an international organization. Generally speaking, the United Nations has no method to restrict nations compulsorily, except by war or global sanction, but to adopt these measures will require consensus of large countries, which is very difficult. What's more, it is often large country that disobeys decision of the United Nations, if war is lunched against such country, it will definitely become world war.

While implementation of decision made by world region of the greatly unified society will be guaranteed by power of the regime, the regions must implement, if any region dare to refuse to implement, leaders of the region will be held accountable administratively, even replaced, or held legally accountable, so leaders will not take the risk in general. Even if implementation in some area is not thorough, the problem will be easily dealt with, and no serious destructive result will be caused.

II. Globalization and the Greatly Unified Society

Globalization is an important feature of the society of our times, and this has been wildly recognized. Convenient traffic, cheap and real-time communication, rich and direct medias shortened distance between people, and the whole mankind seem to be living in a small village.

Concept of globalization in broad sense should include all aspects, including politics, economy, military affairs, culture and technology. No matter whether you have heard of the word globalization, and whether you have felt fruits of globalization personally, examples of globalization are everywhere around you.

Take Beijing, the capital city of the old civilization with a history of 5,000 years as an example. Foreigners that haven't been there could never image that both appearance and connotation of the city have departed from "old civilization". Of course, the Forbidden City is still of red wall and yellow tile, appearances of the Temple of Heaven, Beihai Park and Summer Palace are still appearances of buildings of Ming and Qing dynasties, but they are just several small parts specially reserved as historic interests of the big city, while other areas of Beijing are stuffed with western billboards, almost everyone knows McDonald, KFC and Pizza Hut, German Benz and BMW, Japanese Toyota and Honda, American Lincoln and Buick, and Korean Hyundai and KIA branded cars run on the roads, people drink Coca Cola and UBC coffee, wear clothes of French and Italian brands, hold cell phones of Nokia, Ericsson and Motorola, and watch American hit movies and Koran icon operas broadcasting in Changhong and Haier televisions. These show that various living modes and cultures are penetrating mutually and fusing together.

Globalization trend of cultural and living modes is not restricted to cities like Beijing, but has penetrated to every medium and small cities, as well as remote villages and pastoral areas.

With popularization of radiogram and television, and direct and convenient traffic and communication measures, common people could also sense the great change and their fusion with the world, everyone is fusing in global culture consciously or unconsciously, and the trend is more obvious in much developed nations.

Let's analyze aspects of globalization in depth, and have a look at military globalization first. The Warsaw Treaty Organization (WTO) and the North Atlantic Treaty Organization (NATO) are two largest military leagues in the world. This is also a kind of expression of military globalization, which is only restricted to some region or group. In fact, it is a kind of military confrontation group, and it is more accurate to be called international military separation and confrontation rather than globalization in military aspect.

Globalization features of comprehensive international organizations in aspect of politics, such as the European Union, League of Arab States, Association of South East Asian Nations and Commonwealth of Independent States, are similar to military globalization elaborated above. Such globalization is also restricted to some region or group, and functions a role in political confrontation with united strength, so it is actually international political separation and confrontation.

People are more familiar with globalization of economy and technology, which is globalization in narrow sense, and true globalization to its name.

The main expression of economic globalization is market globalization. When we are shopping in marketplace, we will find ourselves in a global product ocean. Except at special counters, not any kind of product will be all produced in a single country. Products from different areas always gather at one counter.

During the first round of negotiation in Geneva in 1947, the General Agreement on Trade and Tariff had 23 members only, after that, its members had been increasing. To unify world trade, the temporary institution—General Agreement on Trade and Tariff was reconstructed into a standing body—the World Trade Organization in 1995. It is just the irresistible globalization trend of world economy that hastened the appearance of the World Trade Organization. As of present, members of the World Trade Organization has increased to 150.

Economic globalization is also expressed in global production. French Pierre Cardin entrusts a large part of production to Ningbo of China, 70% parts of Lenovo computer come from Taiwan, spare parts of Airbus and Boeing planes come from worldwide, Chinese air manufacturing enterprises contribute 5% production to Airbus A350, and Boeing plane is jointly produced by 340 enterprises in 23 nations that include America.

Another expression of economic globalization is globalized investment in enterprise. Airbus, BMW, GM, Siemens and Ericsson are not wholly owned companies any more, their investments have become globalized long ago, with shareholders distributed worldwide. Such multinational companies couldn't be restrictly by nations simply, if they must be connected with nations, then that will be where these enterprises are headquartered, where they pay taxes, or where their production bases are located.

Economic globalization is also expressed as globalized investment target of enterprise. Investment target of a multinational company is also multinational. The company will build its production factory in the area near market, of low production cost and fairly good investment environment.

Technical globalization developed with economic globalization. A new technology, a new product and a new product model all will soon spread to the whole globe. In aspect of global technology trade, in middle 1960s, average annual global technology trade turnover was USD 2.5 billion only, in middle 1980s, the number reached USD 50 billion, and USD 200 billion in middle 1990s, doubled every 5 years averagely, far higher than growth of world economy.

Technical globalization also includes globalization of higher education. As the center to cultivate scientific and technical talents, institution of higher education is basic strength for a nation to keep competitive advantage. In past over 30 years, students study abroad grow at an annual speed of 3.9%. Today, 38% students awarded doctoral degrees in the UK are foreign students, and this proportion is 30% in America. 10% of college students in the UK are foreign students, and this proportion in 8% in America. What's more, college teachers are being globalized also. In American institutions of higher education, 20% newly retained professors were born in foreign countries, while in major institutions of higher education in China, most of newly retained professors have master's degree awarded abroad.

By careful analysis, we will find out that globalization is the result of fundamental change of communication measures of mankind. Today's highly developed traffic, communication and media measures make globalization possible. What's more, just because of existence of these measures, people are developing towards globalization consciously or unconsciously.

While economic globalization develops, it needs new globalization contents for perfection and supplement. For example, economic globalization is also expressed in financial globalization, US dollar has almost become universal currency of the world, and Euro is trying to challenge US dollar. Banking globalization makes settlement between different banks in two or several countries separated thousands of miles away possible. So

globalized economic activities are more convenient, globalized transaction measures are more perfect, and such convenient and perfect measures have further promoted development of globalization.

In fact, financial globalization is changing people's living style. With a credit card, we can go around the world, and needn't worry about boarding, so travel lovers become more, they have not only brought travel income to the places, but have also brought different thoughts, living styles and spirits, making world culture more globalized.

Cultural globalization is also result of development of modern technical means, but degree of cultural globalization is incomparable with economic and technological globalization, because every nation will try to protect its original culture from external influence, for example, an extreme Islamic nation will not allow bikini girl to take part in beauty contest, likewise, western nations like America and France will not require women on street to wear veil.

In fact, modern technical measures are fully capable to promote wider globalization at multi-level and various fields, while in the process of globalization, nation often becomes barrier for globalization.

The process of economic globalization is generally beneficial to nations, particularly developed countries and countries with technical innovation ability, they are the largest beneficiaries in the process of globalization, while some underdeveloped countries are very passive in globalization process, but when closing is worse than opening up, they start to immerge in world economy unconsciously. Because of above reasons, there are no obstacles set by nations in the process of economic globalization, so it could easily be realized.

Cultural globalization is different. Government of open-minded country will rarely restrict modern medias, so cultural globalization could be realized there, while some countries strictly restrict use of modern medias and communication measures, and cultural globalization is difficult to be realized there. I've been to South Korea once, in hotel in Pyongyang, the television had only two governmental channels, which always played serious political programs, so cultural globalization certainly can't be realized in such environment.

While trans-regional and trans-group political and military globalization in the real sense are far more impossible to be realized in national society. Politics and military affairs are the essential contents of national regime, and also the last line of defense of national regime. In fact, if political and military globalization are realized, basic features of the greatly unified society are ready in general, and social morphology then shouldn't be called national society.

By analyzing globalization at present and researching reasons for globalization, we can find a point that is very stunning—globalization process is not driven forcibly by some government, but people's spontaneous action under modern technical conditions, this spontaneous action reflects people's conscious or unconscious strong desire for globalization and represents people's aspiration. Governments have inhibited the process of globalization, without such inhibition, contents of globalization will be richer, and degree be deeper.

We can allege that if there is slight promotion, globalization will be wider, deeper and more comprehensive. When such globalization extends to politics, military affairs, culture and every aspect of society, the greatly unified society is realized then, because the greatly unified society itself is a kind of wide, profound and comprehensive globalization.

To sum up, no matter it is the action of international organization to unify the world, or spontaneous globalization trend, an operation mode similar to the greatly unified society is being formed. All these are not prepared for the greatly unified society, but they are prelude of the greatly unified society, and become a rehearsal of the greatly unified society objectively. By analyzing results of this rehearsal, we can get following conclusions:

1. International organizations' series of actions to unify the world and the work modes are test of unified governance in the world with modern communication measures, and have improved that hard technical conditions for global governance of the greatly unified society have been mature.

2. Actions to unify the world reflect people's common desire. Such desire was firstly expressed as that a group of politics with conscience initiated and founded international organizations to harmonize world affairs so that the world will be protected from wars and for common interests of mankind. Although these international organizations can't influence national society, and their functions are quite limited, they have always been making great efforts to unify the world, and working hard for common interest of the whole mankind. Many works in which these international organizations are devoted to will be continued by the greatly unified society. What's more, work of these international organizations have also provided experience and references to the great unification.

3. Globalization trend is the world's spontaneous trend, which is irresistible when modern communication conditions have developed to a certain degree. This trend has also reflected people's common desire for great unification, which is joint expectation of people and certainty in history as well.

By above analysis, we can definitely judge that possibility for the great unification of mankind is very clear. Technical conditions are mature, with experience of previous rehearsal and common desire of people, as well as unparalleled just of saving mankind from extinction, what large resistance can't be overcome?!

Chapter X: Basic Thought on Great Unification Plan

After above discussion, we are clear that science and technology at present level could meet hard technical requirements of the great unification. Although transition from national society to the great unification is the most significant social reform in history, the blocking strength is comparatively weak and total resistance is relatively small. All these have clearly improved that the target of great unification could be realized through rational operation, and it might even be realized after a short while.

We will discuss how we could realized the target, that is, by which way could we realize the great unification.

Section I: Measures and Procedures

I. Basic Thought: Peaceful Interim

In the process of great unification, national society will develop into greatly unified society, nation will perish, and the whole mankind will live in a unified society led by world regime and in which the whole world will act uniformly. In the greatly unified society, the highest administrative right is transferred from national government to world regime, and highest rights will be transferred from many national regimes that co-exist with each other to the only world regime. Such transition is unprecedented great undertaking in human history. To finish such transition and protect mankind from self-extinction is the most fundamental and basic interest of mankind.

But great unification will damage viewed interests of some people, and some of these people might obey basic interest of mankind, and promote the great unification process, but they might also go against basic interest of mankind, and block process of the great unification, or even resort to armed confrontation.

So there are two kinds of measures for great unification, respectively as peaceful measure and war.

Generally speaking, big change of political map can't be realized only by peaceful negotiation or war. Peaceful measure means pure peaceful negotiation without any coercion by war, and the so called war means pure war without any peaceful negotiation to reduce losses and casualties.

In aspect of procedures, there could be also two kinds of great unification plans, respectively as one-step plan and interim plan.

One-step plan means direct entrance into the greatly unified society from national society, and direct transition from human society jointly governed by different nations to the society governed by world regime.

According to interim plan, there will be an interim stage between national society and the greatly unified society, in which factors disadvantageous to great unification or long-term stability of the greatly unified society should be effectively fathered, adjusted, reformed or removed.

Primary goal of great unification is to save mankind from extinction. As an unprecedentedly just undertaking, great unification should adopt just plan, so war is not first choice, and peaceful measure is the starting point of our design.

By above analysis, we can conclude that as the whole mankind's basic interests are consistent in the great unification, what's more, in aspect of viewed interests, most groups' interests are consistent, and leaders of large countries that control highest authorities and widest resources are largest beneficiaries of viewed interests, peaceful measure becomes possible, and war could be avoided.

Then let's turn to steps of the great unification. It will be very difficult to unify so many nations and regions by one step.

Firstly, the nations are too different. In aspect of economy, income per capita of the richest nation is hundreds times of the poorest nation. Because of such economic gap, it is very difficult for the rich and the poor to reach agreement. What's more, wide gap between economic bases will lead to very different education levels and overall qualities, so living habits and characteristics thus related will be very different also, and it will be very difficult to fuse people of the nations in a unified society.

Secondly, in aspect of nationality, feud exists between many nationalities, so it will be very difficult to fuse nationalities between which feud has existed for many generations. Even if these nationalities could be unified in the greatly unified society, hatred between these nationalities will be root of turmoil, and killing in revenge will occur often. All these will seriously injure world people's recognition of the greatly unified society, and will be a curse to long-term stability of the greatly unified society.

Thirdly, religious problem will also be an important factor blocking process of great unification. Historic hatred between some major religions in the world have lasted for nearly a thousand years. Discrepancies both in aspects of religious consciousness and religious rites are serious. Because of religious strength, it's very difficult for disciples of different regions to accept each other. What's more, a handful nations in the world are religious extreme nations, which consider any concession made by heretic as betrayal to religion, because of religious feeling, they are unwilling to be influenced by heretic, which sets a toughest obstacle to agreement between nations.

In fact, there are many factors that will influence process of great unification, much more than factors listed above, for example, because of cultural difference and difference of political tradition, it's very difficult for people in different nations to accept each other. If culture and politics of any nation are quite different from future greatly unified society, realization of great unification will be influenced.

The most important factor might be attitude of national leaders which might be able to decide realization of the greatly unified society. National will is often represented by national leaders. While instilling his own will to people, leader of democratic nation may consider people's will more than a dictatorial nation. In a dictatorial nation, the ruler often imposes his own will to the people, and ruler's will could often become national will unconditionally, so ruler's will will decide everything. As for one-step realization plan, we will take all nations in the world into consideration, some of them are democratic nations, and others are dictatorial ones, so it's doubtless that the conditions will be very complicated. It's certain that among so many nations, leaders of some nations will try everything to stop progress of the great unification.

Because of a series of factors as above, it's certain that there are many difficulties for realization of the great unification by one step, so interim plan is more feasible, then peaceful measure and interim stage are basic thoughts for our design of great unification plan.

During interim from national society to the greatly unified society, at least several works as follows should be done properly:

Balance world economic and social development

For example, to help low-income areas to catch up with developed areas, popularize mature and safe scientific and technological fruits to these low-income areas, then income per capita of different areas will tend to be generally same when these safe and mature scientific and technological fruits are popularized everywhere in the world.

Promote regional fusion

To promote regional fusion and realize transition from national society to the greatly unified society are both primary task and final target of the interim period. Works in this aspect are various, including continuously weakening concept of nation and emphasizing concept of mankind, popularizing uniform moralities and values, language, characters, and living habits, and promoting ethic fusion and religious fusion. Set up a uniform environment by a series of works as above elaborated, so that the whole mankind could live harmoniously as a big family.

Prepare hard environment for the unified world step by step

Present technical conditions are completely enough to meet hard condition requirements of governance of the greatly unified society. Every large city has wired and wireless communication equipment, airplanes and automobiles. Television and radiograms are highly popularized. By these means, unified governance of the greatly unified society will be realized. But development of the world is very uneven, there are still many nations that have no highways, many areas have no electric light, telephone, radiogram, and many places can't even be reached by automobile. So there is a heavy construction task in the interim period, that is to connect the whole world step by step in the principle of easy and convenient communications, with world unification as the standard, to create hard environment for realization of the greatly unified society.

Besides above works, a series of effective management methods should also be tested and summarized in the interim period. What's more, the interim stage is different from national society in many aspects, certain conditions for restriction of development of science and technology are ready, so actions restricting development of science and technology should be adopted when the time is right, which is very important also.

II. Basic Selections: Close Absolutely Advantageous Group

To arrange an interim stage between national society and the greatly unified society is to realize transition from national society to the greatly unified society smoothly and effective, stable and long-term stability of future greatly unified society also. During interim period, many factors that will endanger realization of above

purposes must be adjusted, fathered or removed, so that to ensure smooth progress of the greatly unified society.

There are many interim plans, every of which could be selected as the interim plan if it is favorable for realization of above purposes.

In fact, selection of interim plan greatly relies on political standpoints of political leaders and the mass's attitudes in national society. We could be certain that no plan could make everyone completely satisfied. If there are many plans for people to choose, different groups and nations will certainly choose different plans, but the final selection must be made by the most influential political leaders and nations. Such selection might not be the most rational, but that's practice of human society.

Theoretically speaking, we could analyze and research real situation of human society, confirm the most rational plan, and influence the mass and political leaders using the most rational plan, and thus make preparation for selection of a most suitable interim plan.

Transition from national society to the greatly unified society could be understood as combining all nations into a whole, so in the interim stage, some nations will combine with others to form large entities.

Peaceful method often used to enlarge political entity in history is league of nations. In the following part, we will carry out analysis with league of nations as a starting point, and give rise to various questions that the interim plan should consider, so that to find a feasible interim plan at last.

(1) Different forms of unions

National Union refers to a powerful community of nations, which is combined by several countries with different forms taking the alliance as the transition form and different relations as the linking tie.

This kind of national union is established with the sole goal of pushing ahead the process of grand unification. According to the maturity of the times, it will continuously strengthen close links among these nation members and expand the scope of the union until eventually incorporate all countries in the world as a whole so as to realize the grand unification worldwide.

Maybe, the original intention of some unions is to pushing ahead the process of grand unification, some others may be for the other purposes. If countries can form a national union freely, then, the objective of the union must be various. Though the idea of grand unification is widely accepted worldwide, it is not likely that the objective of all national unions is for the cause of grant unification.

Forms of union may be different. It can be classified into economic union, political union, military union, as well as comprehensive union according to contents of the union; from the perspective of closeness, there will be close union, semi-close union and loose union; based on the connecting tie, it can be divided into regional union, alliance between nationalities, union of civilization, and union of ideology.

It is safe assumption that, however, some kinds of union are destined to fail to shoulder the important responsibility of pushing forward the grand unification. For example, it is difficult for such unions tied by economic links to shoulder heavy responsibility of grand unification; and for example, any loose national union can't do this too.

A union, which is striving for leading grand unification and can shoulder the heavy task, will be the close-type one that contains the most important contents of politic, military and economy, and the one with the world's major powers as its members and with powerful strength, such strength is strong enough that one big power can't counter against. Only this kind of national union can win the recognition from other non-union nations by its power. An unknown union formed by small countries can't own the authority to commanding the whole world, and of course, can't hold the responsibility to leading the grand unification.

At present, there are so many kinds of national unions that it is difficult for analyzing and summing up. For example, European Union and the Association of South-East Asian Nations are regional national union, while, the League of Arab States is a national union linked by nationality. the North Atlantic Treaty Organization (NATO) and Warsaw Treaty Organization in history are national unions which include political and military contents, while, North American Free Trade Area(NAFTA) and South Asia Free Trade Area are national unions which just involving economic content. Such unions as Commonwealth Country are so tightly connected that, actually, they become a country. While some unions are so loose that there is no any restriction among them. The national unions we are researching is well targeted, that is, the unions which can directly push forward the process of grand unification and is likely to play a leading role in this process, which, to a great extent, narrows the scope of researching.

(2) Characteristic of National Union under Free State

In history, basically, unions among countries could be formed freely at their will. As a supreme authority body, country is basically free to the restriction of the outside force. They can the ascendancy which can determine their action, determine the subject, form and content of the union according to their own demand.

1. Unions are set up either result from confrontation, or result in confrontation

Generally, National unions under Free State are set up for the purpose of confrontation. Even it is not for the purpose of confrontation, objectively, the establishment can break some force balance, thus resulting in the confrontation. Some of the confrontation is for the reason of economy, some is the culture, some is the politic, some is the military, and some have the feature of the combined confrontation including politics, economy, culture and military.

For example, Islamic civilization had no ability to strike back against the Christian civilization due to the invasion of western countries. In order to fight against the Christian civilization, Pan-Islamism thus appeared with the purpose of uniting all Islamic Nations into a large union so as to fight against the invasion of western countries.

The North Atlantic Treaty Organization (NATO) and Warsaw Treaty Organization during the period of Cold War is similar with this. At the earliest time, when the NATO was established by western countries led by the Britain and France, it compete with the Soviet Union. Under the threat of the NATO, the Soviet Union unites other East European countries to set up the Warsaw Treaty Organization to effectively counter back with the NATO.

In order to dominate the world, occupy Europe and get the living space for Germanic peoples, it is necessary to set up a national union with overall strength can compete with the Great Britain, France and Soviet Union. So Hitler, by joining hands with Italy and Japan, set up the Axis Powers. Under the attack of the Axis Powers, the

European countries with loose state are not able to fight against with the Powers. So, the Great Britain, France and Soviet Union set the Alliance, and get America and China involved in it later.

In order to counter against the powerful nations such as China, Japan and India to avoid being marginalized, countries in Southeast Asia is striving to set up Association of Southeast Asian Nations (ASEAN) Economic Community, and take it as the substantial content of ASEAN. Of course, confrontation of economy is far less intense than military and political ones, so it causes less concern.

Unions, which take economy as the starting point, are also set up for the purpose of confrontation. For example, In order to carry out economic competition with the united European nations, America, Canada and the Mexican jointly set up North American Free Trade Area (NAFTA)

The League of Nations after the WWW I and the United Nations after the WWW II, which are striving for incorporate all the nations in the world, don't belong to the particular national union. In other words, if the League of Nations or the United Nations could fully and effectively influence the world affairs, then it could directly change from Society of States to the society of grand unification, thus it is not necessary to discuss here.

2. The union under the free state is multicomponent

Union in free state either originates from confrontation, or will generate confrontation, so confrontation will certainly have targets. When a union is established, its confrontation target is fixed also. No matter whether the union indicates its confrontation target openly or only, someone will seat by number.

Rearrangement of the nations' strength is the comprehensive cause of union of nations. To protect advantage of their strength or enhance their strength as much as possible, the targeted nations will soon contact countries having common interest and set up a confronting union.

Just because union of nations has the feature of confrontation, union of nations in free state will not be single, but will be various, or in other words, there will always be two or more than two unions of nations of the same type co-exist in the world, they might be established at different times, but such difference will not be large, no matter it is economic league, cultural league, military league or political league, the feature is even much obvious for political league and military league, because political and military issues concern survival of a nation directly, the interest is very serious, and not any country is willing to be inferior in confrontation.

3. Confronting Leagues Will Expand Continuously

After a league of nations is founded because of confrontation, a confronting league will be set up accordingly. Every league will try to enlarge its strength to overpower the counterpart, and no party is willing to lose in the confrontation, particularly political league and military league, because if any party is obviously inferior means that it will doubtlessly lose in the war if it breaks out, as it concerns life or death, not any nation is willing to be inferior. After establishment, to enlarge scale and strength, every league will consolidate and expand its scale, and win over and absorb new members, rather than keeping the original scale. As confronting leagues are all making efforts like this, scale of the league will expand continuously.

Before the World War I, after allied with Russia, France also sought alliance with the UK, and thus set up the Allies with core as the UK, France and Russia. This was just start of the alliance, with progress of confrontation with the Central Powers, contending for alliances became fiercer, even Italy, previous member of the Central Power was also won over, and Rumania and Greek both joint the Allies later. In Far East, two large countries—China and Japan were also won over, and at last, America was won over, which fundamentally changed strength of the Allies, and became the most important factor for the final victory.

The Central Powers' achievement was also excellent. Turkey, the country that occupied an important strategic position then, was an allied nation of the Central Powers, and Bulgaria joint with it later. Bulgaria did not only occupy an important strategic position as it was adjacent to Rumania, Serbia and Macedonia, but it also had a powerful land force. What's more important, before defeating the Allies, the Central Powers successfully coerced Russia, a most important member of the Allies, into signing a treaty, according to which, Russia did not cede territory and paid indemnities, but also quitted the war, thus removed the oriental threat of the Allies.

During the Cold War, NATO had only 12 members at first, and Greek and Turkey joint with it later. When West Germany joint with the alliance, NATO was quite powerful already. In fact, power of NATO is not restrained to west Europe and North American countries, Japan, Korea and Taiwan of China in Far East all obey NATO's order.

While the confronting Warsaw Treaty Organization was doing the same, it did not win over South Korea, Vietnam and China, but also alienated the important countries like France and West Germany from NATO.

4. Semi-close League Could Easily Cause Conflicts

Actions of members in a close league are coordinated, and the member will handle every important action prudently under the agreement. What's more, because most sovereignty has been transferred to the league, the league acts as a nation in dealing with external affairs (today's Federal country is such league).

But a semi-close league is quite different, on one hand, the countries have reached agreement about helping each other to guard against external, such agreement was binding; while on the other hand, many unilateral actions of the countries are beyond constraint of the league.

So a problem crops up, every country will act independently from the league. Every country has interest independent from interests of the league, and driven by such independent interest, the country will easily act unilaterally, which means conflict with another country in a confronting league. The more the members in a league are, the more the countries that will act independently, the larger of opportunities of such conflict, and more frequent of such conflict.

While on the other hand, after conflict arises, the other countries in the same league will doubtlessly join in the confrontation with the confronting country, driven by obligations of treaty of the league and in consideration that it will need support of league when similar things happen to the country, even if they can't be very clear of issue. While members of the confronting league will certainly have same attitude and action, so confrontation between two countries could easily lead to large-scale conflict between leagues.

To put it simply, trouble of a single country will easily get the whole league involved in the conflict, and the possibility that a country gets into trouble is very large, so semi-close league will easily cause conflicts, and often large-scale conflicts.

Take cause of World War I as an example, Austria-Hungary and Serbia conflicted with each other, because Austria-Hungary, the member of the Central Powers, had been coveting territory of Serbia, assassination of Austrian grand duke was only an excuse. But Austrian's invasion into Serbia conflicted interest of Russia which was a member of the Allies. After Russia adopted pertinent actions, Germany, another member of the Central Powers, didn't want to sit out, and joint in the confrontation with Russia resolutely. In fact, without support of Germany, Austria-Hungary would not dare to invade Serbia, and without backup of the Allies, Russia couldn't resist Germany and Austria-Hungary itself. After the war broke out, France, which also belonged to the Allies, joint with Russia in the war later, and prelude of World War I thus started.

Such conflicts could rarely occur between completely loose leagues, because trouble caused by unilateral action of a member country will be ignored by other members, and unilateral action is rare to close leagues, so such unilateral action that could easily get the whole league involved will only happen to semi-close leagues.

(III) Leagues in Free State Could Barely Complete the Important Task of Transform to the Great Unification

The emphasis of transform by league is to continuously combine the countries, to make the league larger and larger, and relationship among countries closer and closer. When the whole world is included in one league that is close as one country, the great unification is realized then. What will happen if we try to realize the great unification by transform of league in free state?

As there will be various leagues in free state, and the leagues will become larger and larger, scale of the league that intends to unify the whole world might be as large as half world, while the other half world belongs to another such league.

Because the league that intends to realize the great unification will have two kinds of members, the first of which will be countries that want to dominate the process of the great unification, this kind of country is very powerful and large scaled; the other kind of country hopes not to be marginalized in the process of the great unification, and safeguard its own interest. This is a major consideration of many medium and small sized countries that must rely on a large country to safeguard their own interests. So the league that intends to realize the great unification will be dominated by large countries and will enlist many medium and small countries.

But not every large country could be a dominator in the great undertaking of unification, nor all medium and small sized countries will be marginalized. Those large countries that can't be dominators are certainly elbowed out by the ones that could be dominant, and those marginalized are certainly pushed aside by countries not marginalized, so the leagues will certainly compete and confront with each other.

Development of leagues will follow the rule—after people reach consensus of the great unification, if someone starts to set up the league that intends to realize the great unification, it will certainly stimulate other countries, and many leagues will thus emerge. After emergence of these leagues, every of them will try its best to absorb new members to enlarge its strength so that to scramble for leading position in the great unification.

If no large scale wars break out during this period, and everything develops fluently, following changes will happen in metaphase of development of leagues: some leagues will be lagged behind in aspects of development speed and scale both, their ability can't match with their ambition, and couldn't enlarge their strength anymore. Faced by fierce competition, they have to admit the fact of their inferiority and give up the original intention of dominating the great unification, and start to seek for not being marginalized instead. Such small leagues will merge into some large league, while large league could enlarge its scale by absorbing such small leagues, so it is certainly willing to merge such small ones.

Following circumstance may also happen—some medium sized leagues sense deeply that they are no match of the much powerful leagues in the fierce competition. Because of the sense of crisis, two or more than two medium leagues will combine into one large league. Above two circumstances may cross and complement each other.

In middle and late period, after long-term merge and absorption, the most possible result will be co-existence of two super leagues that no one will give way, with half the world belongs to one league, and the other half belongs to the other league. Both the leagues want to lead the historic process of the great unification. So confrontation thus caused will be confrontation between one hemisphere with the other.

In early and middle period of league development, most leagues will be semi-close, because purpose of most countries to join in a league is to avoid being marginalized in the process of the great unification. Forced by the general trend, the countries could not be subordinate in the league, and few countries could be dominant. As regard to most countries, both the people and leaders of the countries are unwilling to transfer all rights to the leagues, but forced by general trend, the countries will have to gradually transfer their rights to the leagues step by step. To win more members, the leagues will certainly not require all rights at first, and there must be a process before close leagues are realized, while completely loose leagues have little real meaning to promote the greatly unified society, so most leagues will be semi-close in the early and middle period.

Just because of above features, possibilities of armed conflicts between leagues are increased. What's more, league that intends to realize great unification will be very large, with many members, which means that possibility that member country in the league getting into trouble is very large, and such trouble will inevitably lead to world war with disastrous damages. It might be a real world war with half world fighting the other half, and a real extinction war in which all high-tech killing methods will be used.

In view that league in free state could easily cause disastrous world war, which goes against our wish of realizing the great unification by peaceful means, so league in free state will not be able to shoulder the heavy responsibility of transforming to the great unification.

(IV) Conclusion: Absolute Advantage Could Avoid Slaughter

In view that league in free state could easily lead to disastrous world war, to avoid such disastrous war, to avoid diversification of leagues so that to avoid confrontations between leagues should be the key. First, free association of countries should be prohibited, or in other words, free establishment of leagues should be prohibited. Only a specific league that consists of certain nations is allowed to develop, and absorb countries that could meet the requirements at the right time, so that the league will grow continuously and enter the greatly unified society when conditions are ripe.

Key of this assumption is to restrain free combination of nations that are the highest authorities in national society. Only a few specific countries are allowed to establish league of nations, rather than allowing countries to set up leagues freely. What's more, there will be only one league that intends to promote the process of great unification.

In fact, partial right of most countries will be restrained, or in other words, countries' right to set up leagues freely is restricted. Such restriction will be unprecedented, because international organizations including the UN are all unable to do so.

Then what kind of strength could influence a nation's action in national society?

In NATO, members all obey order from America, while in WTO, members obey order from Soviet Union, because America is the most powerful in NATO, while Soviet Union is the most powerful member in WTO.

Over 2,000 years ago, during Spring and Autumn Period in ancient China, there were many countries large or small in China, strength of kingdom of Zhou was declining, and among all these five most powerful countries that were called five hegemonies in Spring and Autumn Period appeared successively. They dominated China at different times, and were called hegemonies. No country cared order issued by emperor of Zhou, but was very obedient to order of hegemony at that time. This improves that strength will determine a country's action.

Global organizations like the League of Nations and Union of Nations are unable to restrict a nation's action, but large country could. A small country may be supercilious in front of the UN, but it is obedient to order of the large country. France and Germany challenged America as the authority of NATO successively, because France and Germany were also very powerful; while in socialist camp then, China challenged Soviet Union, and broke away from the camp centered in Soviet Union, also because that China was fairly powerful and needn't show deference to Soviet Union.

Let's discuss diversification of leagues. To prohibit free association of nations, there should be an absolutely strong power that could restrict the nations from free actions, and such absolutely strong power could only comes from nations that refer to not any single nation, because a single nation will not be powerful enough to rein the whole world, but only a group that is closely associated in aspects of politics, military and economy could be that powerful. The group should be powerful enough that not any nation could challenge it. The group to a nation outside of the group is just like a giant to a baby. It is impossible that a baby could challenge a giant by force. Even there is such force challenge, it will not be serious, because loss caused by confrontation between the parties with wide gap of strength won't be large, even if the confrontation develops into war.

It is a rule that confrontation and war between parties with wide gap of strengths will not cause large death or damage. It is clear by analyzing wars broke out between large country and small one in the history:

In 1983, when America seized Grenada, only around 130 soldiers fell in the war, and most of them came from assistance force of Cuba. America occupied the whole Grenada in only 3 days. In 1989, America occupied Panama, and sent president Noriega of Panama to America for trial. America controlled the whole Panama in only 4 days, and casualties of the parties were only over 3,000, over half of which were civilians. The Gulf War in 1991 could be reckoned as a large-scale war, but death in the war was less than 20,000. Death of multi-national force led by America was less than 100, and only 42 days later, Iraq retreated fully from Kuwait.

The reason for such result is that compared with these countries, America is absolutely advantageous in aspects of military, politics and economy, particularly when compared with Grenada and Panama.

WTO's occupation of Czechoslovakia in 1968 was such an example also. WTO, led by Soviet Union, seized the whole Czechoslovakia in 1 day using tanks and planes, and the casualty was less than 100. While casualty of NATO in the war with League of Communists of Yugoslavia was almost zero, and casualty of Yugoslavia was only several thousand.

While damage of Iran-Iraq war that lasted from 1980 to 1988 was much larger than the Gulf War between America and Iraq. Iran and Iraq were matchable enemies, the war between these two medium sized countries lasted 8 years. Total casualty of the countries reached 2.5 million, and they spent over 900 billion US dollars in the war. Both of them had spent the last penny in the war. The result is that none of them could defeat the other, and the previous rich oil countries became poor ones after the war, with both countries hurt.

The World War I between the Allies and the Central Powers and the World War II between the Allies and the Axis were both wars between matchable military camps, so they brought over half a world down to the abyss of war. Both the wars made record-high casualties in war history, and the wars led to collapse of economy, and destruction of various architectures and cultural facilities. People had no means to live, with countries split.

Numerous historic issues and wars have improved the truth that wars developed from confrontation between matchable parties will definitely be very cruel ones, while cruel wars could be avoided if strengths of the parties differ greatly.

This issue contains the truth: when strengths differ greatly, not only the weak one will be willing to obey government of the strong, but the strong party will also treat the weak mercifully.

Take relation between countries as an example, when facing a weak country without any aggressivity nor any aggressiveness, a large country is usually clement and merciful, because it senses no threat, it will certainly show its merciful and peaceful image. It's just like a giant facing a baby, the giant will not hurt the counterpart in general, but matchable boxers are hostile to each other.

So absolute advantage could inspire mercifulness, kindness and peace of the country or league. To the contrary, advantage that is not obvious could result in further expansion of the strength, and inspire ambition of war. To make countries or leagues co-exist peacefully, their strengths must be kept greatly differed, general difference of strength is not able to realize the target, but only the difference that is large enough could attain this purpose—making them coexist peacefully.

So, if several very powerful nations could form a close league with absolute advantage, and the league's strength is large enough that not any country or league dare to confront with it, then this league could frighten other nations in the world, and could easily prevent the countries from set up leagues freely. The free state of nation will change then.

If there is no large scale war nor large confronting entity, this league with absolute advantage is definitely able to ensure that there is only one league (that is the league itself), so that it could drive the world towards the dream of great unification under the precondition that there is no disastrous war.

This truth could be further generalized, or in other words, during the interim from national society to the greatly unified society, to avoid large-scale war, we must use large countries' strength to restrict free actions of other nations, rely on strength of absolute power to lead undertaking of the great unification, and let the absolute power to restrict other countries from doing damages to undertaking of the great unification and things unfavorable to world peace, thus ensure that undertaking of the great unification could process humanely and peacefully. It means that the absolute power will act as helmsman and leader of the whole world.

Not any single country could be strong enough to act as the absolute power. Only league of nations could be that strong. Besides league of nations, other forms of association might be possible also. We call such association of nations as absolute advantageous group, or advantageous group for short. To ascertain and choose the scheme of advantageous group is to ascertain and choose interim plan, and the realization plan of the great unification also.

Section II: Three Principles

After the point that an interim stage is needed between national society at present and the greatly unified society in the future and we should rely on the absolutely advantageous group to control and lead the undertaking of great unification, the discussion of great unification plan has become discussion of organization and operation plan of the advantageous group.

The writer thinks that reasonable organization of advantageous group and operation plan should comply with three principles as follows: legality principal, feasibility principle and justice principle. Legality means that advantageous group should comply with international laws; feasibility means that the plan should ensure advantageous group could be organized smoothly, and the advantageous group set up could successfully promote undertaking of the great unification; justice is to weigh interests of different regions and groups, take full consideration of democracy and human rights of every region and group, and try to ensure that everyone is satisfied in the process of great unification.

I. About Legality of Plan

(I) Legality Issue

Because issue of legality of advantageous group falls into scope of international law, we must learn about international law first before researching legality of advantageous group.

Most people know domestic laws more or less, because people will accept education about domestic laws intentionally or not, and are restrained by domestic laws. Domestic law is formulated by legislation organ in due procedures. Domestic law has sanction over natural persons living in the nation, legal persons and state organs in the country, as well as relevant natural persons, legal persons and state organs. Natural person, legal person and state organ are subjects of domestic law. Domestic law is compulsively maintained by army, police

and court of the country, which ensure that domestic law is executed efficiently. Domestic law is valid within the country, but invalid in other countries.

International law, also called public international law, is completely different from domestic law both in aspects of nature and feature. Subjects of international law are nation, inter-governmental international organization and liberation organization that seeks for freedom. International law adjusts relationships among above subjects. It doesn't adjust relations among subjects of domestic law in general. International law is valid in the whole international society, and is binding to all subjects of international law.

Compared with domestic law, international law has two features: the first is source of law, principles and systems of international law are formulated by treaties, conventions and agreements in the principle of equality and negotiation of sovereign states and other subjects of international laws. Another important source of international law is international custom which has been used repeatedly in international practice, and has been generally acknowledged as law. The second is supervision and execution of law. There is not any organization above nations to force implementation of international law. International law could be executed willingly by subjects of the law or forced to be executed by collective strength of international society.

For example, the Peace Treaty of Westphalia signed in 1648 when the Thirty Years' War ended is a document with effect of international law; the Covenant of the League of Nations that was set up after the World War I is also a document with legal effect, and the Charter of the United Nations founded after World War II was also such a document with legal effect. Some other treaties signed in small areas, such as the Treaty of Holy Alliance signed by Russia, Austria and Prussia in 1815, the Quadripartite Treaty signed by America, the UK, Japan and France in 1921 and the Sino-Soviet Treaty of Friendship, Alliance and Mutual Assistance signed between China and the Soviet Union in 1950 also have effects of international law.

From features of international law, we can tell that international law is inseparable from international relationship, which is base for international law. No matter treaty, covenant or agreement signed between countries, or international practice of international affairs, all these origins of international law reflect international relationship. To a certain degree, international relationship will determine international law.

Legality of international law changes with times. Some law that is legal in an era might be considered as illegal in another times. Likewise, behavior that is illegal might become legal some years later.

Because of above features of international law, following aspects need be elaborated:

Firstly, establishment of completely new international relationship usually needs a large scale war.

Take modern and contemporary international relationship as an example. Framework of modern and contemporary international relationship is set up on relics of the world ruled by feudal theocracy in middle ages. The religious reform in the 16th-century affected every country, and influenced the European society profoundly. While Austrian House of Hapsburg was the major defender of European feudal system then, so its contradiction with protestant was acute.

The Thirty-Year War that lasted from 1618 to 1648 broke out because of religion, but it soon evolved into a political war that almost got the whole Europe involved. The Thirty-Year War ended with the House of Hapsburg defeated. Signature of the Peace Treaty of Westphalia marked not only the end of the war, but also

the establishment of completely new international relationship. The world sovereign under Roman theocracy before the war was broke completely, the House of Hapsburg was coerced to admit sovereignties of vassal states. The international relationship that ruled by religious theocracy and feudal imperial power was completed broken up. The new international relationship system is called Westphalia system.

In Westphalia system, the major participants in European affairs were the UK, France, Russia, Prussia and Austria before the French Revolution. France was a strong country then. The French Revolution influenced world politics and international relationship profoundly. To stop French Revolution and help House of Bourbon to restore the throne, European powers—Russia, the UK, Austria and Prussia fought with French First Republic at first and later the First Empire of France for over 20 years. The war was called Napoleonic Wars in history. Winner of the war rearranged Europe, and a new international relationship system was set up, which was the Vienna system.

The system followed Vienna system is Bismarck system. Disorganization of Vienna system and establishment of Bismarck system are results of a series wars including European revolution, Crimean War and German unification war.

The unified Germany accomplished by German unification war soon developed from a country coldly treated to a power to a major power in Europe. German premier Bismarck was a far-sighted politician good at balancing relations. Dominated by Bismarck, an international relationship system with German alliance as the core was formed, this system was so-called Bismarck system that lasted till World War I broke out.

Casualties in World War I were tens of millions, and result of the war led to disorganization of Bismarck system and establishment of the new international relationship system, which is generally called Versailles-Washington system.

Disorganization of Versailles-Washington system and establishment of the new international relationship system were result of World War II. The international relationship system formed after World War II was called Yalta system. In Feb. 1945, when World War II was to end, leaders of America, Soviet Union and the UK—the winning countries met in Yalta and made new arrangement of world pattern after the war, so the international relationship system thus formed was named by the meeting address Yalta.

Secondly, international relationship decides international law principles

International law is related to international relationship. International relationship is basis of international law, and it also determines principals of international law. From sources of international law, we can tell that major composing contents of international law are international treaty and international custom, while both international treaty and international custom are reflection of international relationship. So international relationship is decisive to international law. Appearance of new international relationship will definitely lead to changes of international law, because new international relationship is confirmed by a series of important international treaties and covenants, and international custom will also change with international relationship. It is certain that specific contents of international law will change.

Legality of specific contents doesn’t equal justice of the contents. As establishment of a new international relationship system is often accompanied by large scale war, the dominator in establishment of international relationship system will certainly be the winning countries. The winner will doubtlessly put interests of its own

on top of others. Only when the winner's interest is fully considered, interests of other countries might be considered then. The winning country will impose unfair conditions to the defeated country by the form of treaty. The defeated country is unable to resist, but has to accept the unfair conditions. Such conduct of putting interests of a particular large country on top of the other countries, and imposing unfair conditions to defeated countries is common. Although such conduct is not fair nor reasonable, it is legal in view of international law, because the unfair conditions have been settled down in the form of treaty and have been seemingly agreed and recognized by the parties.

(II) Seeking for legal plan in the United Nations system

We will seek for legal plan for advantageous group in today's international relationship and system of international law. As advantageous group is unprecedented, there will be no legal provisions or legal cases to refer to, we will have to carry out objective judge, after analysis of forming history of present international relationship and international law system.

Establishment of contemporary international relationship and international law system starts from World War II. The most important and influential event to establishment of international relationship and international law system after World War II is foundation of the United Nations and subscription of the Charter of the United Nations. Confirmation of the United Nations as center of international affairs is the most obvious feature of international relationship after World War II. The Charter of the United Nations is generally recognized as the major source of contemporary international law, which is the most obvious feature of international law system after the war.

Judging from functions and operation mechanism of the United Nations, among various organs, organizations and groups, role of the United Nations in global affairs is most similar to world regime. In view of roles of the United Nations to international relationship and international law system, and many factors including that functions of the United Nations that are most close to world regime in global affairs, to set up legal advantageous group in the United Nations becomes natural.

In fact, people always consider the United Nations as an interim system from international anarchy to world regime, because functions of tenets of the United Nations have many similarities to world regime.

Today, 192 countries, over 95% of world total, have become member countries of the United Nations. What's more, all major countries have become members of the United Nations, and they are all obligated to act in accordance with the Charter of the United Nations. In fact, scope of power and harmonization scope of the United Nations both are not limited to member countries. It has become completely global. Take the United Nations' role of protecting world peace as an example, as regulated by the Charter of the United Nations, if it is necessary for maintaining world peace and security, the United Nations should make non-member countries abide by rules it set up. So the United Nations' position as center in harmonization of the world is complete.

1. Organs of the United Nations

To seek for legal plan of advantageous group in the United Nations, we will further analyze organs and operation mechanism of the United Nations. The United Nations has six major organs as the General Assembly of the United Nations, Security Council, Economic and Social Council, Trusteeship Council, International

Court of Justice and Secretariat. There are a series of auxiliary bodies under the major ones, and each of them is responsible for some specific areas.

(1) General Assembly

General Assembly is the major resolution organ of the United Nations. The General Assembly is made up of member nations, with one ballot for each nation, and representatives of a single country no more than 5.

Main functions of the General Assembly are: to discuss general principals of cooperation of nations in aspect of maintaining world peace and security (including principles for disarmament and arm control), raise suggestions on above principles to member nations or the Security Council, and propose the Security Council to pay attention to circumstances that are serious enough to endanger world peace and security; research and promote international cooperation in aspect of politics, gradually advocate and promote development of international law, and formulation of international law as well; promote international cooperation in sectors including economy, culture, education and hygiene, promote human rights and basic freedom of all human beings; accept and resolute work reports other organs submit; appoint secretary general according to recommendation of the Security Council; vote to select non-permanent members of the Security Council; discuss to admit new member nation as recommended by the Security Council, or discuss to remove any member nation upon suggestion of the Security Council; and discuss to determine budget of the United Nations and member nations' subscription proportion of membership fees. The General Assembly could discuss various problems, except problems being discussed by the Security Council.

The General Assembly of the United Nations is convened and presided over by assembly chairman. Assembly chairman is elected by votes of the previous assembly. There are 21 vice chairmen besides. Office of the assembly chairman is assumed by the regions in rotation, quotas of chairman and vice chairmen are as follows: 6 for African countries, 5 for Asian countries, 1 for East European countries, 3 for Latin American countries, 2 for West Europe and other countries, 5 for permanent members of the Security Council.

(2) Security Council

Security Council is made up of five permanent members and ten non-permanent members (previous 7 non-permanent members, increased to 10 in 1965). The five permanent members are China, France, Russia, the UK and America. Non-permanent members are selected through votes of the General Assembly, the tenure is two years, and no re-election nor consecutive term is allowed.

Main functions of the Security Council are to maintain world peace and security, and preside over and promote international disarmament and arm control. Besides, the Security Council also implements trusteeship function of the United Nations, selects judges of International Court apart from judges selected by the General Assembly, adopts measures to execute sentence of the International Court, recommends candidate of secretary-general and new members to the General Assembly, and suggests the General Assembly stopping rights or removing membership of member country.

(3) Economic and Social Council

Economic and Social Council is made up of 54 members (previously 18 members, increased to 27 in 1965, and 54 in 1973), tenure of the membership is 3 years, the General Assembly will reelect 18 members every year,

when the tenure expires, consecutive term is allowed. Economic and Social Council is responsible to harmonize international economic, social, cultural, educational and hygiene works, and raise suggestions on these works. Besides, it also provides information and assistance requested by the General Assembly, Security Council and other organs of the United Nations, and convenes international conferences within its authority.

(4) Trusteeship Council

Trusteeship Council is responsible to supervise affairs of mandated territory, censor report of trustee countries, accept petition of people on the mandated territory jointly with management countries, and visit and inspect mandated territory. Trusteeship Council is made up of three kinds of countries, respectively as member countries that manage mandated territories, permanent members of the Security Council that don't manage mandated territories, and other members (with a tenure of 3 years) of required number selected through votes of the General Assembly. With gradually decrease and completely disappearance of the management countries, now members of the Trusteeship Council only include America, China, France, the UK and Russia—the five permanent members of the Security Council.

(5) International Court

International Court is an organ that is specially responsible to consider and handle international legal problems and solve international disputes through judicial means. The Court is made up of 15 independent judges with different nationality each other, independent judges are recommended by nations and are selected through specific procedures.

Authority of International Court includes appeal jurisdiction and consultation jurisdiction. It doesn't accept case of individuals. If any party disobeys or refuses to execute sentence of International Court, then the other party could appeal to the Security Council to adopt measures to execute the Court's sentence. The Court's advisory jurisdiction includes providing advisory opinions on legal questions raised by the General Assembly and the Security Council at any time. Authorized by the General Assembly, other organs of the United Nations could also ask International Court to air advisory opinions on legal issues within their work scopes.

(6) Secretariat

Secretariat is administration organ of the United Nations. It is made up of one secretary-general and some deputy secretary-generals, and other administrative staffs. The secretary-general is recommended by the Security Council and appointed by the General Assembly. The tenure is five years, and consecutive term is allowed. As administration head of the United Nations, the secretary-general manages and supervises work of other work staffs of the Untied Nations, exercises authority in the name of secretary-general in major organs of the United Nations, and perform other duties and works entrusted by these organs as well.

2. Core right of the United Nations lies in the Security Council

The United Nations adopts three voting systems to censor motions, respectively as unanimous consent with one ballot for each country, majority consent with one ballot for each country, and weighed voting system with several ballots for one country.

Majority system with one ballot for every country means that every member country has equal voting right, or in other words, every nation has one ballot, and the motion will be approved only all members required to attend the meeting vote to consent the motion. E.g. concurring votes of large countries of the Security Council is vote of such voting system. In fact, this kind of voting system endows every member country with equal veto.

Majority consent with one ballot for each nation means that every member nation has equal voting right--one ballot for each nation, the motion could be approved if majority of nations that attend the meeting vote affirmatively. Majority consent with one ballot for each nation could be divided as simple majority consent and qualified majority consent. Simple majority means that the motion could be approved if affirmative votes are over half the total, while the later requires for consent of qualified majority, such as 2/3, 3/4 and 4/5. The General Assembly and many other special organs of the United Nations all adopt the voting system of majority consent with one ballot for each nation.

Weighed voting system with several ballots for one nation means to set up specific standards according to certain rules, such as national strength, responsibility and contribution, giving member country certain ballots or voting rights. For example, the five permanent members of the Security Council hold not only the positions as permanent members of the Council, but all have veto over all issues other than procedural proceedings, which has definitely increased weight of the five permanent members.

The most important organs in the United Nations are the General Assembly and the Security Council. The General Assembly is the highest authority set up according to the Charter of the United Nations, while according to the Charter of the United Nations, the Security Council is the only organ that is authorized to make decision that all member countries are dutiable to obey. Resolution of the General Assembly has no overall sanction, only resolution of the Security Council is really binding. So core right of the United Nations lies in the Security Council, rather than the General Assembly. The Security Council is the most importation implementation organ of the United Nations.

A nation that wants to join in the United Nations must be recommended by the Security Council first, the General Assembly will discuss and vote about it later, while the Security Council could decide whether to recover the membership of the nation whose membership has been frozen; the General Assembly should not discuss or vote on events discussed and being implemented by the Security Council without petition of the Security Council; the organ that will accept complaint that the sentence of the International Court can't be executed and will have right to enforce the execution is the Security Council, rather than the General Assembly; the General Assembly could only provide suggestions to maintenance of world peace and security, but has no right to make decision, while the Security Council has such decision making right.

According to the Charter of the United Nations, "In order to ensure prompt and effective action by the United Nations, its Members confer on the Security Council primary responsibility for the maintenance of international peace and security, and agree that in carrying out its duties under this responsibility the Security Council acts on their behalf". To give effect to its decisions, the Security Council may call upon the members of the United Nations to apply such measures as "complete or partial interruption of economic relations and of rail, sea, postal, telegraphic, radio, and other means of communications, the severance of diplomatic relations". What's more, should the Security Council consider above measures be inadequate, it may take such action "by air, sea, or land forces as may be necessary", "such action may include demonstrations, blockade, and other operations by air, sea, or land forces of Members of the United Nations". On call of the Security Council, all members of

the United Nations should undertake to make available to the Security Council "armed forces, assistance, and facilities, including rights of passage, necessary for the purpose of maintaining international peace and security". To take actions, regional organization and organ must be authorized by the Security Council.

Thus it shows that the Security Council does not only have wide scope of authority, but has the strongest coercive strength also. In fact, authority of the Security Council is far wider than what have been mentioned. The Security Council is responsible to prepare disarmament and arms control schemes, excise trusteeship functions of the United Nations, select judges for International Court, recommend secretary-general to the United Nations, suggest the General Assembly stop membership or remove membership of some nation, and take part in revision of the Charter of the United Nations.

Above narration is enough to show that the core of right of the United Nations lies in the Security Council. While as an organ with general representativeness, the General Assembly functions as "world forum". If the United Nations could be compared to sovereignty, then the General Assembly functions as parliament (in fact, the Assembly's role is not as large as that of the parliament), while the Security Council is the government that holds real power.

Right core of the Security Council is the five permanent members--America, China, Russia, the UK and France. Each member has one ballot. Procedural proceedings will be decided by affirmative votes of 9 members among the 15 total, while non-procedural pratical matters will be decided by affirmative votes of 9 members together with unanimous consent of the permanent five, or in other words, every permanent member has veto, but absence or waiver of the permanent member doesn't constitute veto.

What should be mentioned is that the permanent member could excise its right of veto in discussion of a proceeding to reject it as a procedural question, no matter it is procedural or non-procedural. While the permanent member could also excise its right of veto during votes on a proceeding that is dealt with as procedural. This is "double veto" of the permanent five. Essential meaning of double veto is that the permanent five could directly or indirectly excise right of veto over all issues discussed by the Security Council.

The Charter of the United Nations endows special rights to the Security Council, and very important rights to the permanent five of Security Council on some issues. In fact, issues of the United Nations are always influenced by the permanent five. This is the fact of the United Nations, and it is legal, no matter reasonable or not.

(III) Specific Plan

As core of contemporary international relationship is the United Nations, and major source of international law is the Charter of the United Nations, legality of organization plan of the advantageous group could be confirmed according to principles as follows: select members of the advantageous group within the United Nations, with the Charter of the United Nations as the guideline, integrating features of nations at present.

First-step reasoning: endow power to the advantageous group by comparing to the United Nations.

To set up a legal advantageous group, let's review functions of the advantageous group and rights the group should have.

The advantageous group is to lead all mankind to develop from national society to the great unification. During transition from national society to the great unification, the advantageous group functions as lead of the whole world. Although nations still exist in the transition period, the nations have enfeoffed some rights (e.g. the nations are not allowed to set up league free willingly, obey lead of the advantageous group in the undertaking of the great unification, etc.) to the advantageous group, so their sovereignty is not complete.

Then what principles should we follow in setting up an advantageous group as world lead, so that the advantageous group could comply with rules of international law?

As the advantageous group is unprecedented in human history, it is impossible for us to completely imitate ready articles in international law, but could only set up principles according to basic rules of international relations and international law by reasoning.

To sum all factors, there is a point very important—a key legal challenge faced by the establishment of the advantageous group is that the advantageous group should be made up of which countries so that it is most qualified to lead the whole world? Or in other words, which nations should be selected to be members of the advantageous group that will govern the whole world so that the group meets with principles of international law best?

Then which organization at present is comparable to the advantageous group? Among various groups, organizations and organs, the most suitable and the only suitable candidate is doubtlessly the United Nations which is truly reining the whole world.

Because of features of organs in the United Nations and according to contents of the Charter of the United Nations, the nations have endowed the United Nations with various rights, of which the primary is to maintain world peace and security, so the United Nations could adopt any necessary measures, including military forces, to cope with events that endanger world peace. Meanwhile, the United Nations is also responsible to promote international cooperation, promote development of human society and protect human rights, etc. Its jurisdiction involves almost every major sector of human society, including politics, economy, military, culture and society. It's jurisdiction almost covers every aspect of human society in theory, so it is for all the mankind and is global, and its jurisdiction scope is same as the advantageous group.

As the United Nations is an international organization, it is different from the advantageous group in two aspects in its exercise of rights, firstly, tempo of the United Nations' exercise of rights is not as strong as the advantageous group. The United Nations has no army of its own, even for peacekeeping operations, the United Nations still needs to rely on military forces of its members, so compulsory force of the United Nations' exercise of rights is not strong enough. The advantageous group should have overwhelming advantage in aspect of military ability, and tempo of the advantageous group's exercise of rights should be much larger than the United Nations.

Secondly, depth of the Untied Nations' exercise of rights is not as deep as the advantageous group also. For example, the Untied Nations can't interfere domestic affairs of the nations, and it admits sovereignty of the nations. While the nations are required to enfeoff some rights to the advantageous group in interim period, so the nations will not have complete sovereignty. The reason is that as world leader, the advantageous group will lead all mankind to realize the great unification, it has to take partial right from nations so that it could exercise

its rights as leader of the whole world, if it doesn't take such partial right, it will not be able to lead the whole world.

To set up advantageous group, by reasoning method of laws, we could recognize the two features as above approximately as follows:

Firstly, the advantageous group will just increase tempo of exercise of rights compared with the United Nations. The United Nations' disability to exercise rights effectively is a kind of deficiency itself. It's a pity that the United Nations, an organization for the whole world, couldn't effectively serve all the mankind, and it is the advantageous group that will make up this deficiency. So the advantageous group is much favorable to fundamental interests of the whole mankind. This has improved that the advantageous group should have rights comparable to the United Nations, and its tempo of exercise of rights should be stronger than the United Nations. It complies with international law by value judgement.

Secondly, the United Nations has all rights required for maintaining fundamental interests of the whole mankind. These rights are endowed by the Charter of the United Nations, the broadest multi-lateral agreement signed by members of the United Nations. In fact, rights of the United Nations are enfeoffed by nations. Rights of the advantageous group and rights of the United Nations both are enfeoffed by nations, so origin of the rights is same. What is different is that rights of the advantageous group will be more profound, which requires more rights to be enfeoffed. To avoid extinction of mankind, and protect overall existence which is higher than all the other values, it will be worthwhile for nations to enfeoff more rights to the group, and it complies with value principle of international law.

Second step reasoning: the advantageous group should be set up comparing to framework of the Security Council

The United Nations is an international organization. Sovereign states will become members of the United Nations by signing the Charter of the United Nations, and will enfeoff some sovereignties to the United Nations, so that the United Nations could rein the whole world to a certain degree. To set up the advantageous group comparing to the United Nations, two factors as follows must be considered:

First, sovereign states willingly endow some rights to the United Nations, only the states sign the Charter of the United Nations willingly, could the independent sovereignty principle (independent sovereignty principle is one the most important principles of international law at present) be complied with;

Second, only members of the United Nations will sign the Charter of the United Nations, or in other words, only when a nation wants to become a member of the United Nations, will it be willingly to transfer some of its rights to the United Nations.

Founding members of the advantageous group will be quite limited, maybe several or a dozen nations, but there are around 200 countries in the world, then over 90% of the nations couldn't be founding members. Most nations will not be willing to give away their sovereignty to the advantageous group founded by quite a few nations, even if they sign some international treaty similar to the Charter of the United Nations to enfeoff their sovereignty to the advantageous group, the agreement will probably be signed under coercion. If this is the circumstance, the way through which the advantageous group gains power is illegal.

To solve this problem, we will start discussion by taking organization setup and right distribution of the United Nations into consideration.

Among organs in the United Nations, the General Assembly is the symbol of the highest authority. The General Assembly that is made up of all member nations adopts the voting system with one ballot for each nation. But in such a huge organization, many nations and their representatives could not exercise essential rights. In fact, resolution of the General Assembly has no general binding effect. Compared with state sovereignty, the General Assembly is similar to parliament of the nation that could only exercise the right of deliberation of political affairs. In sovereign state, state government holds the real power, while the United Nations endows its core right to the Security Council by the Charter of the United Nations. Although the Security Council is made up by quite a few members, decision of the Security Council is binding to all countries.

We can infer that the United Nations has power worldwide (although such power is not complete, but we could treat it like this approximately), and core right of the United Nations lies in the Security Council, so we could approximately deem that the Security Council has the right to lead the world on behalf of the United Nations.

With above reasoning, the problem faced by foundation of the advantageous group will be readily solved. The Security Council could be approximately deemed as the world leader on behalf of the United Nations, and the Security Council is made up of just a few members, if the advantageous group set up has same features with the Security Council, then the advantageous group should also have legal rights to lead the whole world. Or in other words, to make the advantageous group legal to lead the whole world, the advantageous group should be set up to have same features with the Security Council, then the purpose could be attained.

On basis of above conclusion, we may also research representation of the United Nations' rights from members of the Security Council. We will find that to set up the advantageous group by comparing to members of the Security Council will be more suitable for legality of the advantageous group according to international law.

As we know, the Security Council is made up of 15 nations, five of which are permanent members, and 10 are non-permanent members. These countries are all the largest and most powerful ones in the world, and also the most representative countries. Following analysis will show representation of rights of the United Nations clearly.

The United Nations has six major organs, respectively as the General Assembly, Security Council, Economic and Social Council, Trusteeship Council, International Court and Secretariat.

The Security Council holds core rights of the United Nations, and member nations control the Security Council, so the core power is held by the member nations in fact. What's more, we also found that the permanent five of the Security Council are the whole members of the Trusteeship Council, so power of the Trusteeship Council is held by members of the Security Council in fact.

Besides the Security Council and Trusteeship Council, the Economic and Social Council is also an execution organ of the United Nations. The Economic and Social Council has 54 members. As members of the Security Council are very influential in the world in general, so most of them are members of the Economic and Social Council that play very important roles in the Economic and Social Council.

Then let's have a look of their influence to and role in the General Assembly. It is natural that every member of the Security Council has a position in the General Assembly. What should be mentioned is that the permanent five of the Security Council occupy five positions as regular vice chairman countries among the 21 vice chairmen, this is special arrangement for the permanent five of the Security Council, not any other country will enjoy such treatment. What's more, non-permanent members of the Security Council that are very influential may become chairman country or vice chairman country of the General Assembly also.

We should notice that the permanent five of the Security Council could certainly influence most members in the General Assembly on every topic for discussion, because of their strong power and global influence, leaving non-permanent members of the Security Council not calculated.

Influences of the Security Council to the International Court are as follows: 15 independent judges of International Court are voted and approved by majority affirmative votes of the General Assembly and the Security Council, which means that the Security Council could veto appointment of any independent judge. In usual practices, the permanent five of the Security Council will have independent judges from their own nations in the International Court, so at least a third of independent judges will come from the permanent five of the Security Council.

Let's have a look at influences of the Security Council to the Secretariat. The Secretariat is administration organ of the United Nations. As administration head of the United Nations, the secretary-general is appointed by the General Assembly upon recommendation of the Security Council, which shows that candidate of the secretary-general is actually decided by the Security Council.

So it shows that the Security Council members' roles in and influences to the United Nations are not only reflected as that the core rights of the United Nations are completely controlled by the members of the Security Council, but also that their influences to other organs are large and actually decisive. So association of these members could be deemed approximately as organization controlling the whole United Nations, which has further increased legality of the foundation plan of the advantageous group, and the foundation plan thus prepared will be a much advanced plan.

Whether the advantageous group must have 15 founding members? Or in other words, whether the number must be similar to that the Security Council, which is 5 (permanent five) + 10 (non-permanent members)? It is unnecessary in theory.

Analysis of decision-making process of the Security Council shows that all decisions made by the Security Council need affirmative votes of 9 members, and non-procedural proceedings could be only approved that none of the permanent five exercise veto, then all resolutions could be approved if the permanent five and 4 non-permanent members vote affirmatively.

Although the advantageous group is made up of many members, nation is no longer independent after it joins in the advantageous group. It will merge into the group, and become part of the group. As every decision of the advantageous group is made by the group, rather than by individual members, we can infer that every decision of the advantageous group will get unanimous consent of the members.

Conclusion of above analysis is that if 9 nations with broad representation could found the advantageous group, then the requirement of legality could be met. The precondition is that these 9 countries must have

representation broad enough. Such representation should be comparable to that of the Security Council. The permanent five must be members of the advantageous group, because tenure of the permanent five is "permanent", and every nation of the permanent five has veto. If any of the permanent five is not selected as founding member of the advantageous group, when this nation opposes lead of the advantageous group or disagrees with policy of the advantageous group, the circumstance will equal veto of the nation, which doubtlessly means that the advantageous group has no authority, or execution of policy of the advantageous group is illegal, and all these equal that the advantageous group itself has lost legality. This requirement could be met if there are 4 suitable nations besides the permanent five. This requirement could be called 5+4 requirement, namely America, Russia, China, the UK and France plus 4 other suitable nations.

Of course, composition of the advantageous group should consider other requirements. 5+4 is the minimum threshold. The advantageous group foundation plan should not refuse to increase member amount if it is favorable to foundation of the group and exercise of roles of the group.

II. About Feasibility of the Plan

To consider legality only is far from enough for foundation of the advantageous group. Another issue that must be considered is feasibility, or in other words, whether the advantageous group could be founded easily, whether the advantageous group could easily merge other nations, and whether the group will have enough power the lead the whole world to the great unification.

To make the foundation plan feasible and practical, several principles should be set in following aspects:

1. Number of Founding Members of the Advantageous Group

It is certain the less founding members of the advantageous group, the easier for the group to be integrated. Because the less the founding members are, the smaller the difference will be. Both religious conflicts and national conflicts will be less, and difference of people's living habits and economic gap will be small also, so the negotiation before foundation will be easier, and disordering factors will also be less when the nations get associated.

But founding members of the advantageous group can't be too few also. Firstly, if the founding members are too few, representation of the group will not be broad enough. Secondly, if the founding members are too few, strength of the advantageous group won't be large enough. There are a group of powerful nations in the world at present, if these countries are not absorbed as members of the advantageous group, it will not only result in insufficient strength of the advantageous group, these powerful nations that are independent from the advantageous group will also become threat to the advantageous nations. What's more, if these independent powerful nations get associated, leading position of the advantageous group will be shook fundamentally.

Founding members of the advantageous group shouldn't be too few, or too many, this is a basic requirement. In aspect of feasibility, the members could be increased only if it will not influence foundation of the group by the core nations and fusion of the group.

2. Economic Scale

Economic scale of founding members must be as large as possible, because economic scale is base of a country's strength. Advantageous group must have strong power to rein the whole world. As it is impossible for the advantageous group to have too many founding members, and every founding member should be strong, in aspect of economy at least.

3. Territory and Resource

Territory and resource actually mean the same question in broad sense, that is resource. Territory is a part of resource, while resource includes more contents, oil, iron ore, water, forest, etc. all belong to resource. Some countries are small, but are very rich of resources, the other countries have vast territory, but scarce resources. It's very complicated to analyze resources of every country specifically, so we will simplify resource problem to territory problem and take it as a standard.

There are three reasons for such simplification, firstly, generally speaking, territory is directly proportionate with total resource; secondly, though some area has no resource at present, situation may change in the future, take Middle East as an example, there used to be a vast barren desert, but it became rich oilfield after oil was discovered; thirdly, another significant meaning of area of territory is above concept of resource, analyzing from view of military strategy, vast territory means deep strategic depth, so military strategic advantage is large. Because of small territory and too limited strategic depth, a small nation's resistance to continuous attack will be very limited even if the nation masters advanced weapons and enormous economic strength.

So using the standard of territory to simplify resource problem and the denotative strategic problem, could not only simplify the problem, but also could review strength of founding member from a wider aspect.

In aspect of territory, there is another important factor that should be considered, that is connection of territory, or in other words, we should not only try to choose nations having large territories to be founding members of the advantageous group, but also consider whether territory of the advantageous group could connect to form a whole piece.

Of course, selection of founding members should consider many other factors, if it is really necessary to select a nation whose territory couldn't connect with others as a founding member, such nation should be quite particular. Major parts of the advantageous group should connect to form a piece.

4. Military Strength

Without absolute military strength, peace will have no safeguard, what's more, the direct reason why the advantageous group could lead the whole world is military advantage of the group. Because of such advantage, all nations are willing be obey the group's lead. Military strength of founding members constitute military strength of the advantageous group, total of military strength of founding members is military strength of the advantageous group, so military strength of nations is also an important factor that advantageous group foundation plan should consider.

5. Consistency of People's Living Standard

Consistency of people's living standard means that gap between people's living standards of founding members of the advantageous group shouldn't be too wide, because too different living standards will certainly cause

quite different lifestyles, education levels and behavior habits. When such discrepancy reaches a certain degree, it will become very difficult for different groups to get along in the society, which may cause many troubles to governance of the advantageous group.

It is also impossible that living standards of the founding members are completely same. In fact, people's living standards within a nation are also uneven, take China as an example, per capita income of Shanghai is 11 times of Guizhou, this gap is quite wide, though the gap brought many social problems, stability of China society is quite good in the world at present.

When selecting founding members of the advantageous group, to confirm a proper standard for the gap, other factors should be considered also. In principle, the narrower the better, but it is a solid fact the living standards of different nations are quite different. When setting standard of income gap, that the gap shouldn't influence fusion of nations will be a principle requirement. Generally speaking, if gap of per capital incomes between member nations isn't over 10, it will not influence fusion of nations to a great degree. When calculating per capita income, purchasing power parity method is more scientific than calculation by exchange, because purchasing power parity could remove unreasonable factors in calculation by exchange, and could better reflect people's real income.

6. Factor of Religious and National Extremist

Religious and national extremism is an important factor that causes social instability. With extremely mad religious and national passion, terrorism appears. Religious extremist rejects and hates other religions, likewise, a national extremist also rejects and hates other nationalities. Religious extremism and national extremism are incompatible with spirit of the great unification.

It is not advisable to select religious and national extremist nations as founding members of the advantageous group, but that doesn't mean forever rejection. After the advantageous group is set up, it will use its leading position to require and lead the nations to improve their policies according to requirements of the great unification, including weakening religious and national concept and abandoning extremist policies. When such improvement has reached certain degree, the nations could be able to meet requirements to be members of the group, and the advantageous group should timely accept the nations as its members.

III. On Justice of the Plan

Justice principle is to ensure that the advantageous group foundation plan could represent principle of equality and rationality, and whether it grants equal opportunities and rights to different regions and groups. By simple analysis, we can conclude that to meet justice requirement, members of the advantageous group must have wide representation, because only wide representation could fully represent democracy and human rights, ensure that the advantageous group has wide supports, and the nations are willing to obey lead of the advantageous group. What specific factors should be considered for justice of the group?

1. Nation Amount and Population

It's doubtless that if all nations are members of the advantageous group, representation and justice will be the largest, but it is impossible, because the situation is final objective of the advantageous group, the great unification, rather than foundation of the group. While vice verse, if there is only one founding member, the representation is too limited, and justice is the lowest, it is more like unjust governance by a super power, rather than the advantageous group.

In aspect of difficulty in founding advantageous group, the former is the most difficult, while the later is the easiest, but both extreme types are undesirable, because the former is actually very difficult to be realized, we will choose the transform plan of advantageous group, and the later does not only go against the principle of justice and legality, but also couldn't meet leading ability requirements of the advantageous group, because not any large and most powerful country in the world could rein the whole world independently from other large nations. To found advantageous group under the principle of legality and justice, with suitable nations as founding members and certain representation is guaranteed is reasonable and practical.

In view of population, representation of advantageous group with quite small population will be weak, while conditions for an advantageous group with population over two or three billion will be quite different. The advantageous group with population almost equal to population beyond the group will be quite convincing, and its representation is very wide also. What's more, the nation usually compares its population with population of the advantageous group, so its conflicting emotion will be little if it is led by an advantageous group whose population and strength are both much larger than the nation's. So the larger population of the advantageous group, the better, but other conditions of the members should meet requirements also.

2. Issues about Nationality and Race

The advantageous group should have wide representation in every aspects, of which nationality representation is doubtlessly very important. There are over 10,000 nationalities in the world, it is impossible to include all nationalities in the advantageous group, and it's unnecessary to do so either. As racial problem is much simpler than nationality problem, and racial problem contains national factors, we could simplify the representation of nationality as racial representation.

Generally speaking, global races include white race, yellow race and black race, or in other words, Europeoid race, Mongoloid race and Equatorial race (someone will further divide Equatorial race into Negroponte type and Australia type—the black and the brown, as population of brown race is very small, to avoid complicating the problem, we will not divide further), which distribute in nations. While selecting members of the advantageous group, to use race to replace nationality as index of scope of representation will make the problem much easier.

Wide representation of race means that founding members of the advantageous group should contain nations with above three races, and should not only contain founding members that have some race or some two races, so meaning of wide representation of race could be extended as representation of nationality.

3. Regional Representation

According to regional distribution of mankind, the whole world could be divided as Asia, Europe, Africa, North America, South America and Oceania. Regional representation is an important composing part of wide representation of the advantageous group.

Different groups of people live on every continent, regional features have decided different situations, living habits, cultural backgrounds and histories for difference races, as well as regional concepts more or less. If such regional feeling is overlooked in selecting members of the advantageous group, then the whole continent might resist leading position of the advantageous group, such resistance is from a continent, so its strength is much larger than resistance of a medium or small nation.

What's more, wide regional representation itself is a composing part of justice. As lead of the just undertaking of mankind, the advantageous group should handle all issues in the principle of justice and legality, so in aspect of regional representation, it's very necessary to select members of the advantageous group in the principle of justice and rationality.

4. Religious Representation

Religion is important spiritual sustenance of mankind. Mankind's belief in religions runs through human society from its beginning. At present, there are over 100,000 kinds of religions, but most of them are new sects, because in some nations, anyone could register a religion if he wants. Though there are many religions, main ones are few. The commonly recognized religions are only Christianity, Islamism and Buddhism. Some religions are not world religions, but are very large scaled and very influential, such as Hinduism and Judaism. Some religions will have many sects, for example, Christianity is divided into Catholicism, Eastern Orthodoxy and Protestantism, and Islamism is divided into Shiah and Sunni.

To ensure wide religious representation doesn't mean to include all over 100,000 religions in the advantageous group, because members of the group will be very few, and it's impossible to include all these religions. Though there are many religions, the really influential ones are few. In aspect of wide religious representation, the feasible way is to include nations that have major religions as national belief as members of the advantageous group. Religious extreme nations shouldn't be considered as members of the advantageous group, because it's very difficult for religious extremists to get along with disciples of other religions. It's certain that three world regions should be considered.

Wide religious representation is very important, it's not because of requirement of justice, but also because religious belief is more important than other believes. Religious feelings occurs from religious believes are deeply rooted in disciples' hearts. Wide religious representation could cohere feelings of disciples, and effectively avoid conflict, resistance and killing caused by religious hatred, and avoid problems of religious feelings and discrepancy and conflict in the advantageous group, so that to create stable external environments for effective leading of the advantageous group.

Section III: Two Assumed Plans

According to theoretical principles elaborated in previous sections, two plans will be put forward in following part. What needs to make clear is that the plans are only imaginative plans that are suggestions only, rather than compulsory choice. To realize the great unification with peaceful measure, the most important mean will be political negotiation among large countries, so attitude of leaders of large countries is the key factor that is decisive to the final plan.

I. Plan I: Core Nation Transition

(I) Basic thought of the plan

Basic thought of core nation transition plan: by three principles of legality, feasibility and justice, associate major large nations in the world to form a group with absolute advantage. From confirmation to realization of association, the advantageous group should enter the stage of close combination, in which the association is as close as a real nation, after loose and semi-loose states.

To be exact, the advantageous group in this state is fully eligible to be called a nation, a nation with special meaning. Common grounds that this special nation shares with common nations are relatively fixed territory and people, unified regime agencies and policies and statutes promulgated by these agencies, and uniform national governance thus result in.

Its difference from common nations is that this nation shoulders a great mission—leading mankind to the greatly unified society. It should annex mature countries now and then, so that it could expand continuously, it asks and supervises the nations to restrict development of science and technology, it needs to harmonize world development of economy, society and culture, and it also needs to probe political policies, economic policies and social and cultural systems for the future greatly unified society. It is the world's flagman and leader of the nations.

This nation is called the core nation, of which "core" means world center and world leader, while other nations are called common nations. Common nation will have partial national sovereignty, and it is dutiful to obey lead of the core nation in aspect of policies concerning the great unification undertaking.

Unification of the core nation is ensured by its constitution, and maintained by powerful national machines. Government, parliament, court, army and police are all strong tools that will ensure long-term stable unity. Although the core nation is evolved from concept of the advantageous group, it has get rid of many essential features of the group, and it's quite similar to a unified nation.

International law should endow the core nation which is an absolutely powerful nation the responsibility, duty and corresponding rights to lead the world to the great unification. Its relationship with common nations should be leader and the led, which means that many policies of the core nation should have certain administrative compulsion, and common nations should obey lead of the core nation.

Foundation of the core nation doesn't mean realization of the greatly unified society, it's just the first step towards the great unification, there is a lot to do and a long way to go to realize the great unification. After foundation of the core nation, there will be a quite long interim, which is a process to integrate nationalities, religions, languages, societies, economies, cultures, arts, people's living habits, morals and values of common nations and different regions. After a series of such integration, the great unification will be realized when conditions are ready.

(II) Specific Assumptions of Core Nation Foundation Plan

According to legality principle, to make the core nation legal in the sense of international law, it must meet the lowest standard which is 5+4, or in other words, founding members of the core nation should include the permanent five of the Security Council, and at least 4 other nations that comply with the requirements. 5+4 is actually the basic framework for foundation of the core nation. Selection of other members besides the permanent five of the Security Council should follow feasibility principle and justice principle.

1. Analysis of the Permanent Five

Feasibility should consider strength of core nation first. The primary requirement is that founding members of the core nation must have quite strong power. In this aspect, as the most powerful nations in the world, the permanent five are doubtlessly qualified in aspect of feasibility. But overall strength of the core nation will not be strong enough if founding members are only permanent five, so other powerful nations should be included in the core nation also.

Justice should consider wide representation of the core nation first. As the core nation will has members besides the permanent five, we should get clear of representation of the permanent five so that to analyze wide representation of the core nation as a whole.

There are four indexes for representation which justice principle should consider first, respectively as population, race, terrain and religion. In aspect of population, population of the five nations is over 1.8 billion, the number is huge, so representation is not any problem in aspect of population, and requirement of population of other member nations will not be influenced by these five. So it is unnecessary to discuss population separately, and only race, terrain and religion need to be discussed separately.

(1) America

Race: Though over 10% population is black, and there are some Chinese and Indians of yellow race, over 80% population are white, so it represents the white;

Terrain: America represents North America;

Religion: Americans believe in Protestantism and Catholicism. To not complicate the problem, we will not subdivide religious sects, so America represents Christianity in the broad sense.

(2) Russia

Race: Represents the white.

Terrain: Russia crosses Europe and Asia, though most of its territory is in Asia, its centers of population, economy and politics are all in Europe, so Russia is deemed as a European nation in general. Russia represents Europe;

Religion: Russian believes in Eastern Orthodoxy, which is a branch of Christianity in the broad sense, so it represents Christianity in broad sense.

(3) China

Race: Yellow race;

Terrain: Represents Asia;

Religion: Though some Chinese have belief, over 90% Chinese are antitheists, and China used to be a nation with quite light religious color, so China represents antitheism. By further analysis, Buddhism originated from India, but flourished in China, and China was the most important spreading source of Buddhism. Today, though proportion of Chinese Buddhists is very small in Chinese, the proportion of Chinese Buddhists against the world total is very large, so China represents Buddhism.

(4) the UK

Race: Represents white race;

Terrain: The UK is a European nation, so it represents Europe;

Religion: Over 80% believe in Protestantism, and some believe in Catholicism, so it represents Christianity in broad sense.

(5) France

Race: represents white race;

Terrain: represents Europe;

Religion: believes in Catholicism, so it represents Christianity in broad sense.

By above analysis, we can get conclusions as follows:

In aspect of race, China represents the yellow, other nations all represent the while, so there is no nation representing the black;

In aspect of terrain, America represents North America, China represents Asia, and other nations represent Europe, so there are no nations representing Africa, South America and Oceania;

In aspect of religion, China represents antitheism and Buddhism, other nations all represent Christianity, so there is no nation representing Islam.

With above conclusions, we could further narrow scope of selection of other members.

2. Select Other Members

According to 5+4 standard, after the permanent five of the Security Council become members of the core nation, if 4 other suitable nations are selected, then the legality requirement of the plan could be met. But this is the lowest requirement, to have enough strength to lead the world and ensure abundant justice, the core nation must include the most powerful nations, and its members must have wide representation.

Analysis of representation of the permanent five shows that in aspect of terrain, there is no nation to represent Africa, South America and Oceania, in aspect of race, the black has no representing nation, in aspect of religion, Islam has no representing nation. Members of the core nation should include such representing nations, or otherwise, the core nation will not have wide representation, and its justice will be not sufficient.

What's more, while selecting members, for feasibility of the core nation, whether the core nation could be easily governed and fused should also be considered. To be in specific, whether territory of member nation connects with the core nation, gap of living standard between the nations and whether the nations are nations of national or religious extremism should be considered.

In aspect of territory connection of the core nation, it's doubtless that if all members could connect to form a whole piece is the ideal situation, but by simple thinking, we know it is impossible. If members should have wide representation in aspect of territory, then it will be impossible that all these members could connect, at least South America and Oceania can't connect with other major members of the core nation. Then requirement in this aspect is that major members of the core nation should connect, but few particular members could exist as overseas territories of the core nation.

As for gap of people's living standard between different nations, the writer thinks that if the gap is larger than 10 times, it will be very difficult for national fusion. It is an empirical estimate, rather than a final conclusion. If 10 times is the upper limit, then the highest per capita income in the permanent five should be standard of the highest income.

As for whether a nation is of religious and national extremism, there will not be any specific measuring index. The judge will rely on comprehensive analysis and general comment of international society.

After above analysis, we can get the primary conclusion about selection of members of the core nation. The most powerful nation that could present the core nation in every aspects, but will not influence governance and fusion of the members will be first choice of the core nation. While nation without representation, but is very strong, shouldn't be excluded for consideration of feasibility of the core nation, because if such powerful nation is excluded outside the core nation, it will not only mean loss of strength of the core nation, the free nation will also pose threat to the core nation.

II. Plan II: World Commonwealth Transition

(I). Framework Assumption of the Plan

Similar to the plan of core nation transition, world commonwealth is also designed according to the facts and theoretic principles that the United Nations is center of international relationship and the Charter of United Nations is core source of international law. What is different from core nation plan is that the world commonwealth plan will carry though democracy and human rights more profoundly. Its thought is as follows:

During transition of world commonwealth, the world will be governed by world commonwealth, and the world consists of a central state that is under direct jurisdiction of the world commonwealth and many free states that are highly autonomous. The central state is made up of quite a few most powerful nations, while free states are

evolved from other nations. So the central state is actually an advantageous group set up for the great unification.

The central state is made up of the most powerful nations, because government of the commonwealth must rely on an absolutely strong power to rein the world. As foundation of the advantageous group should meet principles of legality, feasibility and justice, requirements for members of the central state are actually same as founding members of the core nation.

Except nations that will make up the central state, all other nations will evolve into free states. Central state is essentially different from nation. Free states will enfeoff partial sovereignty to the world commonwealth, and what are left to the nations are only territory, people and certain regional management right.

World commonwealth transition have both taken the factor that the world needs uniform and effective harmonization and management, and the great disparity of world at present into consideration, so the world commonwealth will rely on strength of the central state to fulfill its harmonization and management tasks, and will continue separate government of regions and people of present nations.

During transition by world commonwealth, the world operates orderly under restriction of world constitution. The commonwealth government manages the world in accordance with world constitution. The central state is the core for the great unification. World regime will absorb free states whose conditions have matured to the central state, so scale of the central state will be larger and larger, while free states will be less. The great unification will be realized when all free states have been included in the central state.

The major difference between world commonwealth transition and core nation transition lies in global democracy and human rights represented by their operation mechanisms. World commonwealth regime in this chapter will adopt democratic regime—Separation of Three Powers (administration right, legislation right and jurisdiction right are separated from each other, and they restrict each other from autarchy) that is commonly recognized at present. What's more, world regime adopts two-level right separation. The world commonwealth adopts separation of three powers. What's more, powers are also separated between the central state and free states. Within scope regulated by constitution of the commonwealth, the state will have independent administration, legislation and jurisdiction rights.

1. World Commonwealth Government

Administration right of world commonwealth is held by world commonwealth government (referred to as commonwealth government for short), while the highest administration right of world commonwealth is held by heads of the commonwealth government (referred to as commonwealth heads).

Commonwealth government has two management responsibilities, firstly, direct management of administrative affairs of central state; secondly, the highest target of commonwealth government is to lead the whole world to realize great unification of mankind, so that to harmonize, unify and balance world development according to objective requirements of the great unification undertaking is another important work of commonwealth government.

During transition period of world commonwealth, world constitution will endow certain autonomous rights to free states and certain administration rights to lead the whole world to commonwealth government according to actual situations, and commonwealth government will exercise its rights endowed by world constitution.

So commonwealth heads are general principals of administrative affairs of the central state, commander in chief of the great unification undertaking, and also heads of commonwealth government and government of the central state as well.

2. World Commonwealth Parliament

World commonwealth parliament (referred to as commonwealth parliament for short) is legislation organ of regime of the world commonwealth. Commonwealth parliament is also the highest authority department of world commonwealth in theory. Laws promulgated by commonwealth parliament are standards for the whole world. Jurisdictions of commonwealth government and commonwealth court are both restrained by laws promulgated by commonwealth parliament.

Composition of members of commonwealth parliament should fully reflect the principles of democracy and human rights. Members of parliament will be selected by and dispatched from the states.

As the central state is composed of several most powerful nations, calculating by population proportion, members from the central state should account for a large proportion, while free states are evolved from previous nations, some of which are very small, and calculating by population, they might have not even one parliament member, but such small free state also has right to express its opinion, so distribution of parliament members should incline towards free states.

Besides formulating and voting various laws and resolutions, another important responsibility of parliament members is to take part in voting commonwealth heads. As parliament members represent people in their states, commonwealth heads are voted by commonwealth parliament, so democracy and human rights of the whole mankind are fully represented.

Another responsibility of commonwealth parliament is to participate in deliberation of political affairs. It will supervise and deliberate administration of commonwealth government, demonstrate and debate on significant guidelines and policies. As for commonwealth government that is disqualified, the parliament could impeach commonwealth heads when the affirmative votes reach certain proportion.

Besides commonwealth parliament, every state will have its own parliament. Commonwealth parliament is responsible to the whole world, while parliament of each state is responsible to people in the state only. As the central state shares heads with the commonwealth, so commonwealth heads will be supervised and quested both by parliament of the central state and parliament of the commonwealth. When commonwealth heads deliver addresses and speeches in conference of parliament of the central state, they are certainly based on interests of people in the central state, but when they deliver addresses and speeches in conference of parliament of the commonwealth, they will pay more attention to the whole world.

3. Supreme Court of World Commonwealth

The supreme court of world commonwealth (referred to as commonwealth court for short) is the judicial organization of regime of the world commonwealth. Its major responsibility is to maintain the great unification undertaking in judicial aspect, ensure that the world commonwealth is the only transitional organization to the great unification, ensure that duties, rights and obligations of the states endowed by world constitution are implemented, and protect world constitution.

Commonwealth court will not accept lawsuits of cases within each state, or in other words, lawsuits within jurisdiction of previous national laws are beyond jurisdiction of commonwealth court, and will be dealt with by judicial departments of the states. While jurisdiction of cross-state civil right dispute, or cases within jurisdiction of private international law, is also beyond jurisdiction of commonwealth court, and will be dealt with by special juridical department.

Half grand justices of commonwealth court will come from the central state, and the other half will come from free states. This arrangement is made because in transitional period of world commonwealth, the central state will absorb free states that could meet requirements, number and population of free states will be both very small, so proportion of members from free states in the commonwealth will be very small, and voice speaking for free states will be very low. To prevent free states and interests of their people from being impinged on, there should be some strength in juridical department to speak for them. If grand justices from autonomous states account for half the total, then autonomous states and interests of the people could be guaranteed to a certain degree. Meanwhile, such factor that when strength of the central power is very large, there will still be certain mechanism to restrain it from getting on its own way is also considered.

Commonwealth court is entitled to interpret commonwealth constitution, and declare that commonwealth heads or statutes of commonwealth parliament breach the constitution. Commonwealth court accepts various litigations, and will judge and sentence various cases that breach constitution.

(II) Selection of Commonwealth Heads and Parliament Members & Representation of Democratic Principles and Human Rights

Commonwealth heads hold the highest administrative right of world commonwealth, so whether selection of commonwealth heads could reflect general democracy and human rights of the whole mankind is an important index to weigh justice of world commonwealth.

To design the procedures of democratic selection of commonwealth heads, let’s analyze features of rights of commonwealth heads first.

As elaborated ahead, commonwealth heads directly manage administrative affairs of the central state, and will rein the whole world with strength of the central state, thus dominating process of the great unification undertaking. So commonwealth heads have quite large leading rights over autonomous states, and absolutely highest command right over various affairs that involve process of the great unification. They are both heads of government of the central state and government of the commonwealth.

With basic facts as above, we could conclude that commonwealth heads will come from the central state, because they directly manage affairs of the central state, and will lead the whole world relying on strength of the central state. As commonwealth heads are responsible and entitled to manage and harmonize world affairs, heads of autonomous states should have voting rights to select commonwealth heads.

As for why commonwealth heads should come from the central state, there is also a reason that seems not very just, but very important to feasibility: the central state is made up of the most powerful nations, if commonwealth heads come from the central state, nations in the central state may feel that they are ruling the whole world, the “evil” in human nature make such feeling become a great impetus for large nations to be devoted in the great unification undertaking and positively join in the central state. As establishment of the central state is a key to success of the transitional plan of world commonwealth, this reason that seems not very just is actually an important factor that is decisive to success of the plan. So we may use the “evil” in human nature to promote the great unification undertaking, and try to weaken this “evil” effect in design of world commonwealth transition plan and design of relevant systems, to achieve a justified result from the origin that is not very justified.

So we will have a specific plan as follows: in aspect of selection of commonwealth heads, the central state could only recommend two candidates that have won most votes among candidates (government heads of the central state are also heads of commonwealth government), or in others, there might be many parties or independent candidates, but the central state could only recommend two candidates with highest votes to commonwealth parliament, where these two candidates will be voted by parliament members. This means that commonwealth heads are selected in commonwealth parliament, rather than in the central state.

As number of parliament members for each state is determined by population of the state, including both the central state and autonomous states, and distribution of parliament member quota will incline to autonomous states, so the central state has not any privilege. Meanwhile, as parliament members represent people in their states in theory, their political inclination and voting inclination will certainly represent their own states and willing of people in the states. Head candidates recommended by the central state will be voted by commonwealth parliament means that the selection will be supervised and approved by people of the whole world in theory, so the selection is fairly democratic to the whole world.

While selection of parliament members could be different in different state. The state could have its own procedure and method of selecting and dispatching parliament members to commonwealth according to history and actual features of the state. Parliament member selection and dispatch method of the state is regulated by each state, rather than by relevant policies or laws and regulations of commonwealth.

Parliament members come from different states will not only exercise the right of voting commonwealth head on behalf of people in their states, but also exercise other rights, such as legislation right, right to deliberate political affairs and supervision right on behalf of people in their states, because jurisdiction of these rights is for the whole world. So the transition of world commonwealth will reflect democracy and human rights in the supreme regime of the world in many aspects.

Chapter XI: Greatly Unified Society Consisting with Mankind's Ideal

It’s doubtless true that the original intention of putting forward and setting up the greatly unified society is for overall survival of human being, but setting up the greatly unified society, thus guarantee that development of science and technology is strictly restrained worldwide, and ensure that human race will not be extincted is just the first objective that we intend to achieve. People’s pursuits are far more than simple survival. As a kind of intelligent and civilized life-form, human being has many value needs, such as happiness need, enjoyment need and entertainment need. The social system we build should serve our value needs, and maximize our value.

As a kind of completely new social system, the greatly unified society is unprecedented in human history, and there will be no former example to refer to, which not only predicts that we will certainly face many difficulties in setting up the completely new social system, but also indicates that we can draw the most beautiful picture in a blank paper. Now that we have no heavy historical burdens, we could travel freely, and design and build the greatly unified society as the society that suits people’s ideals best.

Section I: General Assumptions about Greatly Unified Society

So far as present, the greatly unified society should be the final social morphology of human society, because only in the greatly unified society could people really act uniformly, and restrain development of science and technology jointly, thus avoid extinction of human being. We get this conclusion because with our present ability of intelligence, we can’t solve the problem that development of science and technology will bring the disastrous result of extincting human being. So far as present, human being’s evolution hasn’t reach the degree that it could develop and use science and technology fully rationally, with further evolution, mankind’s intelligence and mind may reach the degree that it could develop and use science and technology completely rationally; if there is really such a time, then all conclusions of this book will become outdated. Although we truly hope that there is such a time, it is a matter that concerns biological evolution, while in view of time regularity of biological evolution, if there is not dozens of thousand years, the lowest requirement of time can’t be met, not even to say such result of evolution.

Our thought and design of the greatly unified society are all based on the major aim, that is, the greatly unified society will be built as a society that will save mankind from extinction, and also a society that accords with ideals of human being.

The greatly unified society will last millions of years, it will not only be longer than the time since people have written records, but also longer than the time since people have textual research. It will be such a long period, that we cannot even make sure whether future human being is same as present, as human race is evolving also. Nobody could be wise enough to judge and predict all future problems accurately; for most problems, estimating for a relatively long period will be very difficult.

So all researches of the greatly unified society in this book, including method, process and conclusion, are based on present's horizon, and are carried out by method system and value system that are generally recognized today, what's more, the conclusion is only framework assumption. With development of various conditions of human race and human society, everything will be outdated someday.

I. Completely New Non-Competitive Society

1. Non-competitive and Friendly Society

(I) Completely New Non-competitive Society

As we should build the greatly unified society as a society that will save mankind from extinction, and also a society that accords with people's ideals, we should make clear what kind of society is the society that accords with people's ideals.

In this book, we think the social system that conforms to "maximum value principle" is a social system that accords with people's ideals, or could be called ideal society for short. It tells us that on basis of the whole mankind, a society that could make sure as many people as possible to have value realization as large as possible could be deemed as an ideal society.

As among all values, value of survival is ranked No.1, and value of happiness No.2, followed by other values, overall survival and happiness of human being is very important, what's more, overall survival of mankind is the precondition detrimental to other values, to design an ideal society, we need to carry out in-depth research with overall survival of human being as the start, and with overall happiness of mankind as an important aspect.

The reason for why human society should develop from national society to the greatly unified society is the conclusion after serious consideration of overall survival of mankind, if such transition is not realized, people will soon extinct. The main reason here is that in national society, many countries co-exist with each other, which will inevitablely lead to competition among countries, such competition will cause rapid and unrestrictable development of science and technology, threaten to overall survival of human being just comes from the power of science and technology that human being mobilized itself.

A country will try its best to make the whole country in an atmosphere of competition so that to make it invincible in international competition, for example, the country will mobilize enterprises' competition passion, to make enterprises raise labor productivity and develop new products now and then; the country will mobilize schools' competition passion, to make schools cultivate talents required in competition and deliver more research fruits; the country will mobilize everyone's competition passion, to make every citizen charge forward for national benefits…as every country is such a country, the whole human society becomes competitive, therefore, present human society is a competitive society.

Competitive society will not only cause threaten to overall survival of human being, but will also result in threaten to survival of groups and individuals and happiness of mankind. For example, the major cause of war, the factor that poses most serious threaten to survival of groups of mankind, is competition among countries, nationalities and religions, such competition will inevitably cause confrontation, so war breaks out; take

malignant violence that poses most serious threaten to survival of individuals as another example, malignant violence is also result of competition and confrontation among countries, nationalities and religions, and it is also caused by competition and confront among individuals in general competitive environment of the whole society.

I will primarily address competitive society's influence to people's happiness value. Most nowadays historians think that the ancients are happier than us at present, even people that had just walked out of cave in Paleolithic time are happier than us today, because people's desire could be satisfied much easily, and they had enough time for entertainment.

Competition is fiercer and fiercer now, knowledge shows explosive growth, people still need to upgrade their knowledge after years of hard study, or otherwise, they will be eliminated; the whole society tries to keep up with the Joneses, they compare educational background, wealth and social position, such forever lasting comparison urges everyone to strive and work hard for a life's time, and still unsatisfactory, and leave many regrets when completes the tiresome life; meanwhile, as war and malignant crimes often occur in competitive society, people have to suffer the pains of losing their families, and various losses and inconveniences caused by wars and crimes, so they lack sense of safety very much. Therefore, it is very difficult for competitive society to bring happiness to human being.

In terms of the whole human being, harms of competition to value realization of human being is various, the most typical one is that competition directly causes threaten and challenge to survival and happiness of groups and individuals of mankind, and when groups and individuals are required to handle affairs that concern integral benefits, basic benefits and long-term benefits of mankind, it becomes very difficult for them to deal with such affairs rationally and calmly.

For example, nation is the highest authoritative body in human society, not any power could constrain competition among nations, so war often becomes the final solving method for such competition, which means cost to loser in such competition will be the country be conquered and nationality be perished, faced by such disaster, nobody could give up development of science and technology for consideration of integral benefits of mankind, because science and technology is focus of competition among nations, even if the cost will be extinction of mankind, because overall survival of mankind is an issue for everyone, and it will happen in future, while existence of a nation is the country's own thing, and it is immediate. So science and technology shows explosive development now, and it is unrestrainable.

Also because of above reasons, it is very difficult to handle a series of problems, such as resource problem, environment problem, pollution problem and poverty problem, that concern integral benefits, long-term benefits and basic benefits of mankind. The reason is simple, faced by fierce international competition, when survival and happiness of one's own may be threatened at any moment, it will become impossible for anyone to control exploitation of non-renewable resources for benefits of our descendants, nobody could neglect present development and invest huge amount in environment protection and control, or control increase of population with practical method, or sacrifice his own benefits to help poor countries and vulnerable groups.

To sum up, as mankind is the only intelligent and civilized life-form in life history on earth, fate of mankind and development of human society shouldn't be simply compared with another species, mankind is extremely strong which makes it impossible to have any opponent, and it is impossible for general natural forces to endanger survival and happiness of mankind, which makes the major enemy of mankind be itself. To a species,

this means that competition within the species will be the major threaten that endangers mankind, it not only threatens survival of human being, but also endangers realization of happiness and other values of mankind. Therefore, to realize the maximum value of mankind, such competition must be weakened.

While present society isn't a society that will weaken competition, but to the contrary, it is a society that intensifies competition, what is very terrible is that, the highest authoritative body—nation is wild about such competition, just because the nations lead and intensify such competition with their unique strong powers and advantages about mobilizing resources, and drive such competition within species to the utmost, and make the most obvious characteristic of mankind as competition.

To ensure realization of various values of mankind, so that people could enjoy maximum safety and happiness, we must get rid of such competitive state, and transfer human society from a competitive society to a non-competitive society that is completely new, let all human beings fully enjoy safe living and spiritual happiness in a peaceful and serene environment.

But what needs to clarify is that everlasting competition is a nature of mankind, competition is inevitable where there are human beings, non-competitive society in this book doesn't mean a society absolutely without competition, such society is impossible, it only means to weaken competition to the utmost.

In fact, there used to be non-competitive social morphology in human history, in ancient gathering and migration society, land was boundless, and people rare, land was not wealth, and didn't worth people's fight, different groups were separated from each other. Competition between groups was rare, and it was very peaceful inside many groups, with competition rarely occurred.

Of course, precondition for us to build a greatly unified society as a non-competitive society has changed fundamentally long time ago, and we are not willing to return to that primitive, unenlightened and uncivilized society, though it was non-competitive.

Scale of mankind is quite large now, various traffic and communication measures gather all human beings in a small global village, mankind's civilization has reached a quite high level, and people's cognitive ability is far stronger than the ancients…global non-competitive society set up on above bases will be quite different from the non-competitive society in primitive and gathering period, for example, ancient non-competitive society formed naturally, while future non-competitive society will be result of rational and scientific design; living standard of ancient non-competitive society was low, productivity and civilization were low, and scale small, while living standard of future non-competitive society will be high, productivity and civilization will be high also, and scale large…, therefore, future non-competitive society will be completely new society, such non-competitive society could bring people with common happiness and enjoyment, and is a society people longing for.

(II) Possibility of Non-competitive Society

In 1970s, some isolated tribes were discovered in Philippines, New Guinea, America, etc. Combat characteristics of these tribes are very different. For example, Tasaday tribe that consisted of 27 persons was discovered in Philippines in 1971, they lived on gathering, and were isolated from the world. When the tribe was discovered, it showed its characteristic as almost absolutely without combat, they hadn't such words as weapon, war, rage or hostility, even after they had contact with outer world, and they got to know various tools

and weapons like broadsword, lance and bow and arrow, they were interested in such tools like broadsword that could be used in daily life and production, and they thoroughly refused such weapons as lance and bow and arrow. They fairly divided foods gathered to everyone in the tribe, and there was rarely any dispute or combat.

Indian Hobi tribe and Zuni tribe discovered in America were such tribes also, they didn't combat, and enjoyed peaceful mind, such life continued for several centuries.

To the contrary, competition awareness and aggressiveness of some other tribes are very strong, such as Fentou tribe consisted of 30 persons and discovered in New Guinea, everyone in the tribe was ferocious and bellicose. Indian Comanche tribe and Apache tribe in America are such tribes also, these tribes are all wild about fostering their children as fighters.

All these demonstrate that plasticity of such competition characteristic of human being is very strong, and not only highly competitive society as current could be possibly formed. In isolated groups, because of many contingencies, historic continuity and value orientation of group leaders, some groups are non-competitive, while some others are competitive. This demonstrates that whether a society is competitive society is not congenital, but determined by its social system. Social system here refers to generalized system, such as people's joint agreement, historic rules and value orientation of tribe leaders all could be deemed as social system for a small tribe, while for a large society, such as nation at present, contents of social systems are wider, including policies, systems, requirements and measures in aspects of politics, economy, culture, military and various social fronts.

Because of continuity of history and various inevitable and contingent reasons, the isolated tribes could possibly become competitive groups, but could also possibly become non-competitive groups. No matter they are competitive groups or not, or even there is only one competitive group among many, and all the other are non-competitive, if these groups have contact, they will soon evolve to be competitive. Because competitive groups are all characterized by competition, they will attack other groups now and them, if non-competitive groups keep non-competitive when attacked, they will certainly be robbed and slaughtered, human nature has decided that they will resist, and while thinking about defending, they will think about how to attack the opponent and other groups, therefore, the group evolves to be competitive naturally.

Just because of above reasons, human society evolved from non-competitive to competitive society. When human social morphology entered village and tribe stage after gathering and migration stage, groups of human beings settled down, and surplus wealth of villages and tribes were more, contact and intercourse between villages and tribes were more frequent, these villages and tribes evolved from primitive gathering groups, some of which were competitive, while others were non-competitive, just because competitive villages and tribes often attacked non-competitive villages and tribes, and influenced the non-competitive ones, competitive atmosphere formed all over the society, and large-scale competitive society appeared.

When human society entered national society stage, above circumstances were continued, so it is inevitable that national society is competitive society, or in other words, because many countries co-exist in the world, some countries are competitive, these competitive ones often attack other non-competitive countries, and influence other non-competitive ones, therefore, it is inevitable that national society is competitive society.

But it's certain that in different countries that are all in national society, even in different areas and different groups in the same country, competition awareness and competition atmosphere are quite different. Social

systems promoted in some countries encourage competition, innovation and adventure, so overall competition atmosphere in these countries are tenser; while social system of some other countries also emphasize harmony and amity of society besides encouraging competition, innovation and adventure, so competition atmosphere of these countries is weaker.

Take Laos in southeast Asia and Bhutan at the Himalayas as examples, both of them are small inland countries, external disturbance to them is weak, and both of them recommend Buddhism, so people there are simple and honest, people's mind is fairly peaceful, and competition atmosphere is relatively weak also.

While analyzing countries, we could find out that competition atmosphere in cities is generally tenser than rural areas, because cities of all countries are at center of competition, such competition atmosphere results in comparatively high psychological pressures of people, cold relationship between people, and generally weak sense of happiness; to the contrary, as rural areas are far from competition center, habits and customs get down from history are kept quite good, competition atmosphere there is comparatively weak, and people's psychological pressures are relatively small in such atmosphere, relationship between people is generally close, and sense of happiness is strong in general.

Anyway, highly intensified competition is doubtlessly prevailing in national society, major causes of such competition are competition and confrontation between countries that are the highest authorities. Things of greatly unified society will change fundamentally, there will be only one highest authority in human society then, though the greatly unified society will inherit characteristics of competitive societies in national stage, as world regime has unmatched authority and power, uniqueness of the regime will make it has no matched competitor, and vanishment of competitors to such highest authority is the most important condition for building human society as a non-competitive society.

As we know, whether a society is non-competitive society is determined by social system of the society, then who is designer, promoter and controller of the greatly unified society? It will definitely be unified world regime. While uniqueness of world regime will bring mankind a unified and uniform social system, once the stage in which many highest authorities co-exist ends, it is very possible that the greatly unified society could design and build human society as a non-competitive society. What's more, this non-competitive society is the only society, there is not any other competitive society to disturb or influence it, and therefore non-competitiveness of greatly unified society could be continued permanently, rather than dying when it is young.

To build a non-competitive society, world regime could mobilize all state apparatuses to serve this purpose, and design and popularize a series of system measures, like erecting a kind of non-competitive moral and value concept, particularly a happiness view suits with it; adopting unified ethic and region fusion policy; recommending non-competitive living; creating peaceful and friendly social atmosphere; and building a common prosperous society that could provide good welfare and fully protect human rights. After these systems and measures were carried out one after another, a non-competitive society will be set up certainly.

II. Common Prosperous Society

To ensure common happiness of mankind, the greatly unified society should be a common prosperous society, because happiness occurs in comparison, in a society with wide gap between the rich and the poor, few rich people will coexist with many poor ones, which means that in a society with wide gap between the rich and the poor, most people can't have the sense of happiness. Separate governance of the nations and application of science and technology have determined that national society must be a society with wide gap between the rich and the poor, in which most people can't have the sense of happiness.

The greatly unified society will adopt global uniform governance, the world regime will consider the globe as a whole, and create the precondition for balanced development of mankind. Besides, the greatly unified society will restrict development of science and technology, the world will enter a stage of stable development. As the ancestors have completed creation and invention of science and technology, future mankind will be beneficiaries of science and technology. What's more, the greatly unified society will popularize scientific and technological fruits that are safe and mature at present to the whole world. The process of application is also a process of balancing wealth. The greatly unified society should be, and could be built as a common prosperous society. So the greatly unified society will be built as a society in which the whole mankind will have common happiness.

What needs to be clarified is that the so-called common prosperity doesn't mean absolutely even, but generally even and reasonable wealth distribution and allocation. In fact, an absolutely even society shouldn't be advocated, because absolute even will result in people that will not work to reap, and people that work hard not have what they deserve, so that to cause unfair social wealth distribution.

There is further elaboration about issue of common prosperity later.

Section II: Some Specific Problems

In this section, I will estimate and design some specific problems of the greatly unified society according to the maximum value principle. The greatly unified society will face many problems, what I hereby put forward are only some most important ones.

I. Problems about Nation, Nationality and Religion

Throughout history after mankind entered national society, the most stable, and also the most powerful groups among human societies are nation, nationality and religion, particularly nation, which is the highest authority in national society.

Concepts of nation, nationality and religion are deeply rooted in people's heart, people from the same country think they all belong to a same collectiveness, likewise, people from the same nationality or having the same religion think they belong to a same collectiveness. People are often far away from home, but when such two persons that are mutually strange meet, the relationship between them will be much closer after he learns that the other one comes from the same country or same nationality, or has the same religion with himself; when

conflict breaks out between different persons, or war between different groups, enemy and friend is naturally separated by country, nationality or religion in people's mind. We call such characteristic of country, nationality and religion as "group identity role".

The inherent group identity role of nation, nationality and religion could integrate society and cohere groups, and we call this role as society cohesion role of nation, nationality and religion.

While corresponding to above roles, country, nationality and religion also have "group rejection role" and "society dissociation role". For example, if a large country consists of many small countries used to independent, then in governance of the large country, mutual rejection and hostility between these previous small countries will often occur, or some of these small countries will try to get independent again; in multi-nationality country, it is inevitable that the nationalities are enstranged from each other, with conflicts occur often, and some nationalities often trying to get independent or self-governed; in multi-religion country, it is also inevitable that different religions are antagonistic to each other, with some group linked by religion trying to get independent.

Group identity role, society cohesion role, group rejection role and society disassociation role are all component parts of roles of country, nationality and religion, which refer to both kinds of roles that are antagonistic.

Just because nation, nationality and religion have such unique functions, these three groups are playing an irreplaceable positive role in human society. For example, powers of nation, nationality and religion have accelerated expansion of human groups, promoted spreading of fruits of human civilization, and created many incredibly amazing social miracles, in process of which human evolved from primitive tribe to modern society, and from barbarism to civilization. But it is also obvious that most of the bloodiest wars in human history and terrorist attacks were caused by these three powers also. Almost all positive functions of nation, nationality and religion to human society correspond with equivalent negative functions, and all these are results of interaction of inherent functions of the powers.

By further analysis of two kinds of functions of nation, nationality and religion, we can find out that group identity function and society cohesion function of nation, nationality and religion functions within a nation, nationality or religion, while to the contrary, group rejection function and society disassociation function of nation, nationality and religion functions externally, or in other words, different countries, nationalities and religions tend to reject and separate from each other.

Because of such rejection and disassociation functions of nation, nationality and religion, and the greatly unified society need to unify all nations, nationalities and religions in one society, the functions of nation, nationality and religion that will take effect in the great unification undertaking will not be group identity function or society cohesion function, but group rejection function and society disassociation function only, and such rejection and disassociation function will certainly become barrier and ruinous factor in the progress of great unification. Furthermore, as nation, nationality and religion are the strongest power in human society, their roles will be detrimental to the great unification undertaking, and to handle problems in these three aspects correctly is the most important work of the great unification undertaking.

Comprehensive analysis shows that damages of nation, nationality and religion to social cohesion and negative effects to social stabilization and harmony are different each other.

When the greatly unified society is realized, nations will have perish, with what left as a kind of national consciousness only, the so called national consciousness is the consciousness of seeking for regional independence, which is a kind of typical disassociation consciousness. As national consciousness exists, it will inevitably exert negative effects, to fundamentally eliminate negative effects of national consciousness, national consciousness in people's mind must be removed as clean as possible.

Thus, we should weaken previous nation's regional concept, so that to weaken people's national consciousness occurred because of their national identity. To achieve this purpose, the most effective method is to encourage free flow of people, particularly long-distance flow. There are many methods to encourage free flow, including encouraging global economic activity to integrate global economy, which is also promoting and encouraging free flow of people.

There is another kind of national consciousness, which is the pure hope of governing an area independently. To get rid of such national consciousness, publicity of harms of country must be enhanced. What is equivalently important is to keep balanced development of different regions. If global development is almost in the same level in aspects including economy, culture and society, people naturally will not have the feeling that his region is quite different from others, and passion of regional disassociation will be rare.

Again on nationality issue, as long as nationality exists, negative effects of nationality factor to the greatly unified society will inevitably exist. To eliminate negative effects of nationality factor to the greatly unified society, the most effective method, also the most fundamental solution is to eliminate national concept.

To eliminate national concept is to continuously mix nationalities, assimilate them, and form an integral at last, or in other words, mix different nationalities, never separate, there is the concept of "human being" for the whole world, and make nationality a history.

In a world without nationality, hatred and disassociation activities caused by nationalities will disappear also, what's more, all negative effects like ethnocentrism, national prejudice, national inferiority complex and national revenge caused by nationalities will all disappear naturally.

Ethnic fusion includes two aspects, respectively as blood fusion and cultural fusion. In aspect of blood fusion, the greatly unified society should encourage intermarriage between different nationalities and races. Cultural fusion comprises many contents, including not only cultural identity, but also uniform language, characters, belief, moral and ethic consciousness and behavior criteria, all of which should be greatly promoted by the greatly unified society.

Only when human being has realized fusion both in aspects of blood and culture, can we announce that nationality has perished, and there is only one name that is "human being".

As regarding to religion factor, it is likewise that as long as many religions or sects co-exist with each other, negative effects of religion will not be eliminated. Unification of religion will be much more complex than ethnic fusion, in real life, we could feel that people are more willing to accept wife or husband of a different skin color than to accept wife or husband of different religious belief. We may also feel that even a life-time's ideological work will be useless to convert a Muslim to Christian, and to convert a Christian to Buddhist is also very difficult. Features of religions show that different religions will deny and repel each other, the more mature the religions are, such denial and hatred among religions are more intense. Please think, how can a

religion that claims its god is the only true god to get along well with other religions? So it is impossible to achieve religious fusion. The only possibility of religious unification lies in scientific antitheism, because antitheism represents truth itself, what it reflects is the objective reality, rather than a god that could be never improved. What's more, conflict of antitheism with religions is weaker than conflict between religions. Mao Zedong once dealt a lot for propaganda of antitheism in China, and had achieved great effect, but with pass away of Mao Zedong, promotion of the work is weakened greatly.

The antitheism's unification of religions will be a long and difficult process, even longer than ethic fusion, because people's religious belief is a kind of spiritual need. People need spiritual solace, and are willing to believe even if they are clear that nothing exists (this is because of self-deceiving nature of mankind), what's more, such belief has not any false content.

This improves that when antitheism could unify all religions, and previous religions will all perish, but after many years of compulsory promotion of antitheism, people do need a kind of religion to comfort their spirit, the greatly unified society could consider to promote a religion of the whole mankind to meet people's spiritual requirement. Meanwhile, the greatly unified society could also use this religion for the whole mankind to integrate the greatly unified society, cohere mankind's feelings and unify moral value of the whole world.

II. Relevant Political Issues

The most important specific representation of maximum value principle in political aspect is democracy principle. According to this principle, not any individual or group could represent the whole mankind; of all mankind, any individual is a just a member, no matter his profile is high or low, where he comes from, which times he is born to, of what age and gender. Anyone is equal, and should be entitled to freedom. Everyone should have basic human rights, including the right to pursue happiness and enjoyment, and right to protect justice. All these rights shouldn't be deprived.

Democracy principle specially emphasizes that the greatly unified society must endow equal political rights to every citizen. On selection of major leaders of world regime, raise and promotion of significant policies of world regime, every citizen in the world will be entitled to express his opinion, and to vote or be voted through equal and reasonable procedures. Whether democracy principle could by thoroughly implemented and people's democracy won't be deprived by dictators will be determined by rationality of political system to a great extent.

According to experience of social governance in national society, if people transfer too many political rights to hierarchs, they might lose control of hierarchs, so that to lead to autarchy in the greatly unified society. If this is the situation, people will lose democracy, and master will become slave in front of dictator. To prevent autarchy, ensure hierarchs act according to people's will, and ensure orderly power shift, to use power to restrain power is very necessary.

Democratic political theory today is generally comes from Montesquieu's thought of separation of powers. He thought that national power could be divided as legislation right, administration right and jurisdiction right, and also thought that to prevent abuse of power, we must use power to restrict power.

In Montesquieu's opinion, abuse of power is common, even in democratic nation, of which the government is selected by people, if rights are too much centralized, and are beyond the scope that could be controlled by people, rights from people will turn to dictatorship's tools, and various malpractices in political area, such as corruption and power politics will be inevitable. To avoid dictatorship, national powers must be separated, that is to endow legislation right, administration right and jurisdiction right to different national organizations, and regulate in laws that these three powers will restrict each other and keep balanced.

Montesquieu's theory is called "separation of three powers". Practice has improved that such separation of powers and power balance are effective. I think the separation of political powers adopted in national society, as well as power balance theory are also applicable to the greatly unified society.

It should be specially emphasized here that the greatly unified society must be a legal society, everything must be transacted following laws, no body is allowed to breach laws, and anyone that breaches laws must be punished by laws.

Legal society is associated with power balance. According to human nature, when someone's power has no restriction, his desire will expand unlimitedly and will do as he wants, laws will become a piece of waste paper in front of him. If world regime's powers are not balanced, the greatly unified society can't be ensured to be a legal society, tenets of the greatly unified society can't be achieved in a non-legal environment, and most important principles will be easily breached.

In view of overall target of human society, the greatly unified society is much significant than national society. Original intention and the most important target of the greatly unified society is to save mankind from extinction, which is more important than anything else, so tenet and important principles of the great unified society are not allowed to be breached.

As the greatly unified society will last for a long time, laws should not only be perfect, but also fairly stable, what's particularly important is that there must be a fairly stable world constitution with very strong restriction ability.

As the basic law for the greatly unified society, world constitution will cover many aspects, including both restriction of development of science and technology, issues about political system, economic system and social system, and moral value. Some of these contents could be revised with process of society, and should be revised with change of time and conditions, but some other contents shouldn't be changed easily, for example, strict restriction of development of science and technology is such content, except fundamental evolution occurs to human race, the principle shouldn't be revised.

Then how to ensure that specific contents of world constitution not to breach important principles, but could be timely adjusted with change of times, and ensure world constitution have strong global sanction? I think a world constitution similar to national constitution is not enough. For example, nation usually sets a "threshold" for revision of constitution, such as suggested by several parliament members or are agreed by some people, and could determine revision content. But some contents of world constitution in the greatly unified society can't be revised, and sanction of these contents should be very strong, so simple constitution can't meet these requirements. To protect the most important principles for the greatly unified society, there should be a "law on protection of constitution" at higher level than constitution.

The so-called law on protection of constitution is raised regarding to the most important principles in constitution. Law on protection of constitution will clearly require that the most important principles in constitution should have much stronger sanction than general principles, and requirement for revision of the most important principles is much higher than requirement for revision of other principles. Protected by law on protection of constitution, sanction of the most important principles in constitution will be very strong, anyone that breaches such principle will be severely punished. Also because of the law on protection of constitution, no one will dare to breach such principles, particularly people that master highest rights.

Meanwhile, the most important principles in constitution will not be revised as common constitution revision. Law on protection of constitution has clearly regulated very high "threshold" for revision of these important principles, so that revision or change of such principles is almost impossible, except human race encounters great change or more awful difficulty.

The greatly unified society will have an army controlled by central government. But as nations have perished, and there is only one highest regime in the world, with disappearance of defense and attack opponents, war will disappear also, army's functions will change accordingly, and military expense will be far smaller than national society. Functions and features of army could be summarized as follows:

First, maintain world unification. Army is controlled by the central government, it is deterrent force maintaining world unification. Just because of existence of military force, separatists dare not to implement their separation desire. Second, put down rebellion. Common social security should be maintained by police, once social instability evolves into rebellion, and police becomes unable to quench, army should quench the rebellion with its strong power. Third, take part in disaster relief. Army has strict disciplines, when natural disaster or other disaster occurs, the force that is easiest to be organized and mobilized, and with the strongest battle effectiveness is the army. To take part in disaster relief will be an important responsibility of army. Fourth, counter invasion of ET, asteroid impacts on earth and other threats from universe. Though possibility of threats from universe is very low, the damage will be serious once such threats occur, and military force should shoulder the holy responsibility to protect the globe.

III. On Economic Issues

In economic aspect, the greatly unified society is different from national society at least in two aspects: the first is different economic operation environment. For example, economic development has greatly benefited from scientific and technological innovation, while the greatly unified society will restrict development of science and technology strictly; different nations adopt different economic systems and policies, and economic development levels of the nations are quite different also, while the greatly unified society will take full account of the whole world, and adopt harmonious and uniform economic operation mode under management of the world regime. The second is different economic operation target. In national society, every nation will try to maintain sustainable, stable, healthy and rapid economic growth, so that the nation will not be eliminated in fierce international competition. In the greatly unified society, as there are no confrontation and competition among nations, economy needn't to grow very fast, the emphasis is to realize common prosperity and bring common happiness to the whole mankind.

So we can forecast economic issues of the greatly unified society as follows:

First, the greatly unified society is a common prosperous society.

Economic development in national society is very unbalanced, and gap between the rich and the poor is wider and wider, of which the main reasons lie in following aspects: the first is historic reasons. Some nations have been in primitive closed state, when the world entered industrialization times, these nations still kept in uncivilized environment. These nations have long been enslaved by colonialism, and have lost economic autonomy, with economic structure seriously distorted. So there are gaps between nations even at the starting line.

Second, different nations adopt different economic policies. Degrees of policy makers are very important to economic development. Generally speaking, the poorer the country, the less talents are there, so the degree of policy is lower, while the richer the nation is, the higher the education level will be, and the more talents are there, so the degree of policy is higher also, this is an important reason for why the gap between the rich and the poor is wider and wider.

The third is different national characteristic. Different nationalities have different cultural traditions, different living habits and different moral values. Some nationalities are very endurable of hardship, and are diligent and good at developing economy, while other nationalities are quite lazy, can't endure hardship, and are not good at developing economy. Results for nationalities that are quite different will certainly be very different in aspect of economic development.

The fourth is uneven popularity of science and technology. Science and technology have become the major impetus for development. Efficiency of the same worker will be hundreds of times different between using modern operation measure and primitive manual operation.

Developed countries have widely applied various advanced technological production means, and have been strengthening their R&D ability continuously, while underdeveloped countries are still using primitive production and farming methods, not even to say scientific R&D ability, so it's certain that the gap with developed countries will be wider and wider.

Use of science and technology also intensified the unbalance of wealth distribution. Rapid development of science and technology, as well as the application in production, has greatly strengthened enterprise's ability to create wealth, boss and the management are certain major beneficiaries, while employees' incomes will be quite varied. So innovation and application of science and technology are also major causes for wide gap between individual wealth.

The greatly unified society will change basic features of national society fundamentally: first, to help poor areas to develop will be an important work of world regime. The whole world will be in jurisdiction of the world regime, so there will be only problem of balanced development, but no intention to favor any area. It won't look on poor areas indifferently, but will attach great importance to helping these areas. What's more, world regime controls global resources, and is completely capable to help these areas in various ways, so that to narrow gap between poor areas and other areas and ensure balanced development of the world.

Second, policy of the greatly unified society is uniform, which means that the policy will be made by the same department, so actual situations of different regions will all be considered when the highest decision making department formulates economic development policies and allocate various resources reasonably, keeping

balanced development of the world as the base of all economic works, which will avoid widening gap between the rich and the poor inevitably resulted by independent development of different countries in national society.

Third, the greatly unified society will promote fusion of nationalities, religions and regions. There will be only one notion--“mankind” for future people. To promote fusion of the world, the greatly unified society will promote a series of moral values and living habits that are favorable to global uniform governance and development, then the whole mankind will share same internal quality, which is also an important factor for balanced development of the world.

Fourth, while restricting development of science and technology, the greatly unified society will collect and check technologies that are safe and mature at present, and then decide which to use and popularize, with deepening of such promotion, most areas of the world will use technologies at generally same level, difference of application of science and technology will be reduced to the lowest degree, so productivity of different regions will tend to develop to the same level, which is the most important factor for balanced development of the greatly unified society, and this factor will greatly narrow gaps among personal wealth.

To sum up, various basic features of the greatly unified society will accelerate balancing of wealth distribution. With continuous development of the greatly unified society, wealth distribution in the society will tend to be even, so the greatly unified society will be a common prosperous society.

Common prosperous society is very favorable for people to enjoy happiness, because happiness occurs in comparison. In a society with wide gap between the rich and the poor, few rich people and many poor ones will coexist, so many people can't have happiness in comparison of happiness. What's more, in a society with wide gap between the rich and the poor, various crimes will arise, in a society with frequent crimes people can't feel safety, not even to say happiness.

Second, in the greatly unified society, economy will develop steadily.

In national society, application degree of scientific and technological fruits is very different in different nations. Such difference will be brought to the greatly unified society to a great extent. As development of science and technology is restricted, in aspect of economy, the ideal result is to popularize technologies that are allowed to be used everywhere in the world, if we are really able to do so, then these scientific and technological fruits will be fully used, this is also a major target of economic development of the world regime.

In process to attain this target, economic development will show features as follows: the first is to popularize technologies that are allowed to be used everywhere in the world, and the second is to simply enlarge production scale at present level of science and technology.

But economic development is also restricted by market demands. As development of science and technology will be restricted, no new technology will appear, if present scientific and technological fruits are popularized worldwide, production scale will be enormous, and such enormous production scale will far exceed people's demands for common products. What's more, the greatly unified society will advocate frugality, luxury will not be encouraged, so one product could be used for a long while, and speed of mankind's consumption of products will be greatly reduced.

What's more, as the world regime will definitely control world population, global population will tend to be stable, so most people will be able to get what they hope to get because of the stable population, and scale of demands on global market will tend to be stable, global economy will tend to be stable also. Such stability of economy will be realized under the precondition of common well-being of the whole mankind and people's demands could be fully satisfied, rather than economic stagnation caused by insufficient production.

IV. On Social Issues

The writer hereby sets general target of the greatly unified society as “peaceful and friendly society”, and advocates “medium payment, medium harvest, frugal living, some saving” as a kind of living concept of the greatly unified society. Reason for such design is that such target is most favorable for social stability, and most favorable for the whole mankind to have common happiness. Political, economic and cultural measures, as well as policies and measures in various social aspects are all designed for this target.

Peaceful and friendly society can’t be realized in national society, because realization of national interests needs protection of national strength, so every nation will try to raise its national strength, ask its army to be brave and insuperable, and require its enterprises to innovate and be good at competition. Because of all these factors, moral values advocated by national society and political, economic, cultural and social policies adopted by national society must be competitive and adventurous. So the national society, the human world after industrial revolution in particular, is full of competition, adventure and confrontation, because of such competition, adventure and confrontation, it’s impossible for peaceful and friendly social atmosphere to form.

The greatly unified society will completely reverse this situation. Because of perishment of nations, and fusion of nationalities and religions, and after disappearance of such preconditions as national, ethical and religious confrontation, restriction of development of science and technology will also require restriction of fierce competition, over risk and acute confrontation be restricted. With disappearance of the toughest barrier as national, ethic and religious confrontation, it will not be difficult to realize the general development target—to build a peaceful and friendly society.

When above targets are realized, a picture as follows will open in front of us:

In a peaceful society, people yearn for quite and peaceful life. People's living pressures will not be heavy as today, with application of science and technology that are safe and mature at present, medium efforts will exchange for medium harvest. Though people will have medium harvest, they prefer frugal life, so families will have some surplus, and people will live safely and surely.

Meanwhile, people will become very friendly, people will often help others, no matter they are neighbors, colleges, classmates, friends, or strangers. Friendly behaviors are everywhere, though people live frugally, they are generous when facing needy people, regardless of personal gain or loss. Frugality is not miserliness, but a kind of value and living style that is commonly considered as noble.

People are quite indifferent to wealth and position, and will not be rapturous at what they gain, or be deeply grave at what they lose. People will make best of things, live a normal living, try to have more moral harvest, be different towards interests, seek for stable living, harmonious relationship in families and with neighbors, be

far away from competition and risks. In such society, war and crime will be rarely occur, and global resource regeneration will be balanced with mankind's consumption.

Now, we will discuss several questions as follows: firstly, common and good social welfare will be a basic feature of the greatly unified society, the purpose is to increase people's sense of safety in living, and weaken social competition. Good social welfare and sound social safety system need material base. In the greatly unified society, safe and mature scientific and technological fruits will be promoted and applied widely, such promotion and application will not only narrower the gap between the rich and the poor, but the material wealth thus created will be completely enough to bring people living conditions even better than the developed countries at present, and this is the reliable material guarantee for establishment of social welfare and social safety system of the greatly unified society.

Secondly, the greatly unified society will advocate middle level education. Higher education, particularly higher education that involves natural sciences, shouldn't be advocated, but also should be strictly restricted within certain people, because the more people to learn natural sciences, the more ones that will master natural scientific knowledge, and the more people that have keys to sciences, so restriction of development of science and technology will be more difficult.

Thirdly, the greatly unified society will attach great importance to population control. The standard is to keep balance between mankind's consumption of resources with global resource regeneration ability. With restriction of development of science and technology, people will not gain alternative resources by science or technology, to live permanently on earth, people must keep balance between resource consumption and resource regeneration, of which the most important factor is population, because the larger the population is, the more resource consumption there will be.

V. Morality and Value

In the greatly unified society, the whole mankind is included in a unified world, so the greatly unified society will need a uniform morality system. People could fuse together only under uniform moral and value system. What's more, features of the greatly unified society also requires a uniform moral and value system that suits the greatly unified society in general. Such uniform moral and value system is different from that of the national society in many aspects, at least the emphases of many aspects of moralities and values are different.

The writer puts forward a series of assumptions of moralities and values of the greatly unified society. What needs to be clarified is that all these assumptions of moralities and values are standards that people are required to meet according to features of the greatly unified society. Some commonly recognized good and evil standards, such as no killing, no stealing and no adultery, are not elaborated here, because these basic moral requirements are self-evident, and need no special emphasis. I think there are eight moral values that must be emphasized in the greatly unified society—peace, friendliness, frugality, diligence, tolerance, mercy, credit and integrity .

Peace refers to quietness, calm, harmony and generosity. Do not be rapturous at gain, or deeply grave at lose. Face everything peacefully, get along with others harmoniously, be generous always, seek for medium payment

and medium harvest, do not rack one's brain in scheming for private interests, and face the whole life peacefully and calmly.

Friendliness refers to sincere friendly behavior and the attitude to get along well with others. If there is some difference between politeness and friendliness, then the difference is that politeness might contain some fake content, while friendliness is sincere; politeness may contain some purpose for leaving good impression to others, while friendliness is from one's heart.

Frugality means thrift and simplicity. Frugality is opposite to waste and luxury. No matter individual expense, family management and social governance, frugality will always be a principle. Be frugal everywhere possible, and try to save money everywhere possible. Do not eliminate any product that could continue to be used, and this is principle of frugality.

Diligence is to be hardworking, and replace harvest with labor. Diligence seems to be conflict with peace and frugality, but it is actually not, what peace and frugality pursue is to exchange medium harvest with medium payment, which means that there should be payment first, then comes harvest, and the payment needs spirit of diligence. Diligence here doesn't mean ergasiomania-type hard work, but it emphases that part to exchange harvest with payment, and goes against reaping where one has not sown.

Tolerance refers to lenience, forgiveness, magnanimity and acceptance. It’s opposite to rancor and narrow-mind. It asks people to tolerate everything with broad mind, to forget rancor, forgive enemy, stop retaliation, and return good for evil. It asks people not to care others’ irreverence, but see people’s advantages, and get along well with others. Tolerance also requires people to be tolerant towards everything, do not resort to arms for trivial. Without tolerance, people can’t get along well with others, or build a harmonious and peaceful society.

Mercy means kindheartedness, goodness and lenity. Mercy is bestowal to others, is to give what previously belongs to you to others willingly. Such bestowal is sincere care, generous giving, friendly greeting and tolerant forgiveness.

Credit refers to honesty, sincerity and fame. It represents sincere communication between people and real products provided by enterprises, as well as promises kept by governments.

Integrity asks people to have sense of justice, and to be responsible and brave to maintain social justice.

Chapter XII: Evaluation on Grand Unified Society

It is advantageous for us to recognize a problem by carrying out evaluation on grand unified society. The problem is the significance of realizing human beings' grand unification and if it is worthy that we take upon ourselves abandoning national society and moving towards grand unified society.

Social morphology belongs to the category of social system. And people should apply the principle of greatest value to carry out the assessment on social system. That means by viewing from the point of whole human to verify if the social system is good for maximum people to acquire maximum value realization. Two kinds of methods could be adopted for the research on the evaluation on grand unified society. The first method is directly carrying out comprehensive assessment on the realization degree of human beings' values especially the major value (including existence and happiness) of human beings in the grand unified society. The second method is to draw the corresponding conclusion indirectly by carrying out all-around assessment on the justice of social system in the grand unified society and comparing this with that in national society. The chapter adopts two different methods respectively to do research on the role of grand unified society on human beings' value realization as follows.

Section I: Evaluation on the Human Beings' Value Realization

I. Significance of Human Being Existence

Human Beings' existence is the foundation of all their values which is more important than any other values. If human beings don't exist, there is no way to mention other values of human beings. Then the significance of grand unified society to human existence could be narrated from the following points:

(I) Relieve Entirety Existence Crisis

Technology is a double-edged sword which could benefit the human beings on one hand. And on the other hand, it brings tremendous destruction to human beings as well. As long as technology develops in this way, the destruction could finally annihilate human beings which will happens before long.

We should confine the technology to develop towards superior class in order to avoid human extinction. However, it can't realize limitation on the development of technology in the national society where there are many countries exist together. Only if human unification comes true, we could probably realize the goal of relieving human beings' entirety existence crisis by making use of the power of world regimes and taking uniform actions in the global.

We know that existence ranks first among human beings' values. Moreover, the human integer is most important. Therefore, the entirety existence of human beings is above all. Then just from the point that the grand unified society could release human beings from entirety existence, the grand unified society plays matchless role to human beings' values. It is the reason for that we put forward using grand unified society to replace national society. The core of all the tenets of grand unified society also rests here. As because the grand

unified society is able to relieve the entirety existence crisis of human beings, the summation of all values in national society is unimportant by comparing with this.

(II) Relieve Group and Individual's Existence Crisis

By analyzing the human society, the major sources causing group existence crisis are wars and large-scale terrorism criminals while the major sources causing individual existence crisis are ordinary criminal slaughters.

There are mainly four aspects of sources for causing wars in history: firstly, wars break out due to the hostility between countries which take up highest proportion and cause greatest personnel casualty. Secondly, wars break out due to the hostility between nations. Thirdly, wars break out due to religious hostility. There are not only kill among armies but also large amount of cases killing common people during these three kinds of wars. That is all because that the people aiming at other countries and nations and the believers of other religious are enemies in the state of wars.

The fourth kind of main root of war is the civil war for scrambling for dominion. The civil war includes three kinds of forms: the country civil war capturing supreme administrative dominion; the nation civil war seizing nationality predominant power and the religious civil war snatching up religion predominant power. Such kind of war is generally the war between armies which is with fewer behavior of slaughtering civilians on purpose. It is because the target of civil war is very obvious which is to capture dominion and acquire the dominance on human. If the army slaughters civilian deliberately, the army will lose the support of people which is same as bringing ruin upon oneself.

Next is the criminal slaughter. The criminal slaughter with largest scale is also the criminal slaughter with maximum danger at the same time which is the terrorism attack caused by national and religious hatred. When a nationality or religion group has inveterate hatred towards another nationality or religious group but has no ability or is impossible to start a war, it will choose the method of terrorism raid to slaughter the other side. There is also another kind of criminal slaughter which is mainly caused by the discontentment on the society, or hatred towards individual or murder for gain. At this moment, such kind of criminal slaughter seems like less dangerous than the previous one. It is because this kind of criminal slaughter is always the behavior of an individual or fewer people while the previous terrorism raid is always with organization which could bring mass casualty and great shock to the society.

If the counties die out in the grand unified society, the world regime will be the exclusive supreme power. Therefore, the antagonism between supreme power bodies will disappear along with the disappearance of countries. The grand unified society will realize national integration and the concept of "One human being in the global only". If nationalities vanish, the national opposition occurred due to different nationalities will also disappear. The grand unified society will realize religious integration which will possibly cause two results: one result is no religion any more in the world. The other result is there is a uniform religion in the global after a period of time. The lowest standard is to achieve the goal of eliminate religion extremism. As a result of inexistence of religion or the uniqueness of religion, the resistance between different religions will also disappear.

Thus, here are the following results: firstly, the national wars which occur frequently and cause maximum casualty and damage disappear. Secondly, the nationality wars which primarily aim at the civilian and cause great casualty disappear. Thirdly, there is no religious war any longer. Then, the factor of civil war only exists

among the four kinds of major war sources. There are three major factors causing civil war which includes the civil war aiming at capturing supreme administrative leadership; the civil war aiming at capturing the nationality dominant power and the civil war aiming at capturing the religious leadership. The latter two factors among these three don't exist along with the integration and disappearance of nationality and religion. Therefore, there is only a possibility of the civil war aiming at capturing supreme administrative leadership.

It is known that if a kind of regime can't be alternated in a democratic and ordinal way, the regime can only be captured by arms. Then, judging from the present political values at least, it is certain that the grand unified society won't establish an autocratic or hereditary regime. Moreover, it isn't difficult to build a democratic regime with ordinal supersession as concerning the current political wisdom of the human beings. Therefore, the factor of war aiming at capturing supreme administrative leadership could also be lowered to a minimum degree due to the scientific design of political system. In addition, the cruelty of civil war is smaller than the other types of wars and it generally doesn't aim at the civilian.

Next is the status of the criminal slaughter. We know that it is the terrorism attach caused by national and religious hatred that with largest scale, greatest casualty, strict organization and maximum danger. Then, such kind of terrorism attack will disappear naturally in the grand unified society along with the integration and disappearance of nationality and religion.

Besides, the criminal slaughter which is caused by the discontentment on the society, or hatred towards individual or designs against other people's money exists in the grand unified society certainly. This kind of criminal slaughter is generally done by individual without organization. And its destruction scale and harmfulness is less than the former one. Furthermore, such kind of criminal slaughter in grand unified society will also be less than that in the national society. Here are the following reasons:

Firstly, because of the inherent competition and opposition between countries, the moral values advocated by the national society always emphasize braveness, adventure, revenge and innovation. This kind of values will make people restless and take a risk. People will have the impulse of criminal slaughter once there is inappropriate direction. But the grand unified society takes non-competition society as its entire development direction and advocates values of moderation and friendship. Moderation could make people peaceful and friendship could resolve the contradiction. The society educates people based on the thought of moderation and friendship, the social conflict and criminal slaughter will definitely be much fewer.

Secondly, there is an extreme disparity between the rich and the poor in the national society. Furthermore, the development of technology aggravates the gap. The striking gap between the rich and the poor will certainly result in psychological imbalance of people. There are a large number of criminal slaughters caused by the mentality of miso-affluence or discrimination against poor people. And the grand unified society adopts the policy of even wealth. The gap will become smaller along with the restriction on technological development and wide spread of current safe and mature technological achievements. Therefore, the criminal slaughter caused by the disparity between the rich and the poor will decrease remarkably.

Thirdly, along with the wide spread use of current safe and mature technology in the global, the wealth created by the grand unified society is enough for guaranteeing the universal ample food and clothing for all the mankind. With the proposal of life concept such as medium pay, medium gain, thrifty living and with surplus, people's living goal could be achieved basically under the circumstance of a certain pay and the criminals who risk danger to murder for money will reduce greatly.

Fourthly, with the disappearance of the hostility between countries, nationalities and religions in the grand unified society, the world regime will measure all things standing from all mankind' point of view, it will restrict individuals to possess guns and control other possible available means by the criminals for the sake of stability of all the human beings. Thus, the criminals will lose many qualifications for criminal slaughters. At least, the terrorism attack which could cause mass casualty will become fewer.

Thus it can be seen that the grand unified society will decrease wars and the persistent disease-criminal slaughters remarkably which obsess human beings and endanger the existence of human group and individuals for such a long term.

(III) Solve Generation Existence Crisis

Various kinds of environmental problems, energy problems and population problems faced by us currently are issues that decide whether human society could develop in a sustainable way. The problems not only determine whether our offspring could exist on the earth but also determine whether our offspring could live happily on the earth. That is to say these issues are the issues about existence values and also about happiness values for our offspring. For the convenience of narration, we bring these issues into the content of generation existence uniformly.

It is well known that we face serious environmental issues, resource issues and population issues. The application of Freon results in destruction of ozonosphere. The emission of greenhouse gas causes global warming. The emission of acid gas, mass industrial production and use of industrial product leads acid rain and other air pollutions. The excessive land use and destruction of forest, grassland and marsh causes land desertification and loss of biological diversity. Severe industrial and agricultural pollution and explosive growth of population result in crisis of water resources. Furthermore the excessive exploitation of non-renewable resources will make the non-renewable resources confront with depletion generally and there is no resource for the human beings to use in the future. Therefore, the crisis of generation existence is apparent. It has direct relationship with the national society that the series of problems can't be solved effectively.

1. The supreme power in national society is country. And the national leader's interest thought must think of his native interest firstly. Then, he will think over the human beings' interest. This is why we have already realized many human beings' crises well and the UN and its relevant international organizations also harmonize each party's stand. But once every party studies to decide the scheme to solve specific problem, they will bargain and hold endless discussion without decision, and decision without implementation which makes the obvious crisis not only can't be solved in time but also becomes worse and worse.

2. Viewing from the long history of national society, the competition between countries is extremely cruel. A war results in mass casualty. And the losers suffer from insult and are brutally slaughtered. Therefore, nobody dares to fall behind in the competition between countries. In the life-and-death opposed atmosphere, the country doesn't consider whether its adoptive competition means are harmful to the offspring at all. The country cares nothing as long as the way can strengthen its competitive strength.

As a result of nation diversification, the comparison occurs naturally between countries. When the national leader finds the distance between the native and other countries, he will try his best to seek measures for chase. Furthermore, people from different countries will compare. If they find they live worse than the people in neighbor or their living level maintains same when that of the people in neighbor improves, they will be

dissatisfactory on their government. This kind of dissatisfaction will produce threaten to the continual reign of the government after developing to a certain degree. This is what the ruler greatly scared.

In order to avoid the above mentioned situations, if the country can't catch up with other countries in legitimate ways, the country's leader will take unconventional and non-scientific developing method such as excessive exploitation of non-renewable resources, the excessive land use and denudation of forest. Therefore, it will certainly cause exhaustion of resources, land desertification, forest destruction, water and soil erosion and loss of biological diversity etc.

3. Because every country in national society is independent from each other and implement following its own policy, the governing level of every country is uneven. And the great gap in the application of technology results in large difference between the productivity levels of different countries. Therefore, it causes great disparity between the rich and the poor which is without precedent in the history in the world today.

The problems brought by large disparity between the rich and the poor are in series, such as population explosion, land desertification, resources issues and environment issues etc. These problems all have direct or indirect relationship with the large disparity between the rich and the poor.

The fundamental difference in the social morphology features of the grand unified society could solve the above mentioned problems in large extent. And even some crises could be cured completely.

1. The world regime in the grand unified society is unique. The regime originates from the will of the whole human being but not from any local. The responsibility scope borne by regime is the entire world but not any local. Thus, all the interests measured by the regime are concentrated on the human entirety completely but not any local. All the matters being inconsistent with the entirety interests of the mankind could be banned firmly without any trouble back at home.

It is certain that every area develops in its own way. This kind of regional interest will also endanger the entirety interests and long-term interests of the mankind. But once the circumstance is discovered, the world regime which possesses of a series of powerful means including army, police and court will be perfectly capable of performing effective determent.

2. The uniqueness of the supreme power in the grand unified society will make the hostility among the diversified supreme power bodies in the national society disappear. The possible nation war due to nation opposition will also disappear at the same time. Therefore, the world regime, as the unique supreme power in the grand unified society, will make the insecurity and fear on possible defeat during the opposed wars between countries in national society disappear all together. And the mentality of taking any malfeasant action will also disappear along with the disappearance of the mentality worrying about defeat of nation war.

The uniqueness of the supreme power in the grand unified society will make the state of mutual competition and comparison between countries disappear in national society disappear as well. The mentality of scaring of lag and developing economy by sacrificing the offspring's interests due to the competition and comparison will also disappear. At the same time, the possibility of causing people's discontentment and performing pressure over the government due to such kind of competition and comparison will also disappear.

Therefore, the world regime has the qualification of governing the mankind society in a scientific, rational and sequential way from the point of maintaining the mankind's entirety interests really in a gentle mentality. Consequently, the world regime makes the starting point of all decisions be established in human beings' long-term interests, overall interests and fundamental interests. The behavior of harming the offspring's interests by only considering the short-term interests will be relieved greatly.

3. The global uniform governing in the grand unified society won't produce great disparity between the rich and the poor. Furthermore, the grand unified society also implements even-wealth policy and promote the currently safe and mature technology for application widely. The grand unified society could completely guarantee the entire mankind to live an affluent life.

Then along with the improvement of education level and perfection of social security system, the global population will be controlled effectively. Thus, the relevant series of issues concerning with the sustainable development of the mankind society such as resource and environment will all be relieved greatly. The existence and happiness values of our offspring will all acquire corresponding guarantee. Consequently, the generation existence crisis will obtain remarkable solution.

II. The Significance on Human Beings' Happiness

Happiness, a kind of emotion, is the mildness and satisfaction of soul. Happiness requires basic living conditions, personal security, equality and freedom of life and healthy body as well. Comparing with national society, is the pain brought by the grand unified society more than the happiness or the happiness more than the pain? The answers about these questions are inspection on the significance of mankind's happiness values in the grand unified society.

(I) Easiest and Happy Life

Due to the competition and hostility between countries in the national society, all the people are put stamp on the war wagon of countries. The world develops rapidly. All the people are in the competitive atmosphere with intense tension. Although people could acquire some creature comfort, it can't replace the mental blues caused by psychological stress in the atmosphere with fierce competition. In fact, mental depression has already been a common modern disease.

A person strives not only for the sake of acquiring material wealth but also for obtaining happy life. But the fact tells us that people can't gain happiness but receive pain when they acquire material wealth in the atmosphere with fierce competition.

In order to keep up with the pace of times and earn money for the family's living, everyone should study and renew his knowledge constantly. Every people should seek for innovation and move forward always just like pursuing a war wagon running forward day and night. The life of human beings is very hard and tired. And people could gain some material wealth. But the occurred pressure and pain are much more than the happiness.

In the grand unified society, the competition and hostility between countries vanish due to the disappearance of countries. It creates conditions for establishing a non-competitive society. Therefore, people could escape from

the war wagon of countries. The grand unified society commits itself to create gentle and friendly social environment and restrict the development of technology strictly. And then the pressure of continual renovation with knowledge disappears. The pressure of continual technological innovation disappears. The fierce competing pressure disappears. Thus, the grand unified society is an easiest society.

The grand unified society carries out restrictions on the development of technology which doesn't mean repulsing the application of technology. On the contrary, the society promotes the currently safe, mature and reliable technological achievements for application widely. The technology develops with imbalance in the national society. Some countries have applied the most advanced technology while others still adopt the most original method for production. If the society could spread currently safe and reliable technological results to every place in the world in a comprehensive way, it could bring extremely affluent life for the human beings. Furthermore, the distribution of wealth will become more equal. Consequently, the general happiness degree of the mankind will be improved remarkably only by the measuring index of material wealth.

Meanwhile, the military expenditure will decrease greatly due to the disappearance of national hostility. If the society applies the military expenditure to the improve people's living, it will further guarantee that the whole world won't be in poverty any more.

Additionally, there is a set of supreme power organization for every country in the national society. It costs a lot to maintain the operation of the organization. But there is only one set of supreme power organization in the grand unified society. Therefore, the government expenditure will reduce remarkably. And the saving expense could also be used for the improvement of people's living.

The grand unified society will integrate the global together. The global economy communication cost will decrease correspondingly. Issues of transportation expenses increase and the enterprise overhead expenses due to national factors will all disappear. Meanwhile, various kinds of tariff and tariff barrier will also be cancelled gradually. Thus, the enterprises' benefits will be improved correspondingly. And the improvement of people's living level will benefit from it.

Therefore, the grand unified society could completely realize people obtain employment completely, have ample food and clothing and live happily in a comfortable environment.

(II) Life with Contented Soul

The life happiness depends on the contentment of soul. And the contentment of soul is acquired through the pursuit of hope and comparison with the surrounding environment. This kind of comparison mainly means the comparison with the surrounding crowd and people's past life. When a person think there is no great distance or with some progresses and advantages by the comparison, he will feel satisfied.

In a society with rapid development, it is certainly along with enormous pressure and pain if people want to acquire contentment of soul. That is because when all the people exert their utmost strength to run forward, what you can do is trying your best to run forward. When you do all you could but fail to catch up with other people or lag behind when you do your best, you must feel painful and lost. Maybe you will surpass other people one day, you obtain some contentment temporarily. But you can't stop because other people still go on running forward. As long as you slack off slightly, you will be surpassed by other people. The social pressure

will always go with your life. It is difficult to acquire happiness by viewing your lifetime. Therefore, we always hear the surrounding friends sigh that the living pressure is so large and the life is so painstaking.

A society which is unequal between the rich and the poor isn't a society that could make most people acquire contentment of soul. It is because that the affluence of the minority and the poverty of the majority must coexist in the society with large gap between the rich and the poor. The national society is just such society.

The grand unified society changes the status greatly. As a result of its restriction on technology, the world will enter into a stable development period. The technology doesn't need innovation and development any longer. Standing from the grand unified society in the future and reviewing the human beings at the times, we will find their forefathers have finished the innovation and invention of technology and they are only the people who enjoy technology.

The grand unified society will be a world with even-wealth. The mental imbalance caused by immense living disparity vanishes. Furthermore, the values advocated by the grand unified society is to consider medium pay, medium gain, thrifty living and with surplus as a kind of living concept to advocate and regard the concept as the happy ideal in life. In fact, the mankind society will be able to realize surplus with material certainly because the society promotes mature and safe technology achievements generally. Then, a person who is always with surplus and thrifty with living will feel the satisfaction of soul naturally and easily. Thus, the grand unified society will be a society where people could feel satisfactory commonly, study, work and live comfortably.

(III) Mild and Hopeful Life

The grand unified society considers establishing non-competitive society as its entire development direction and regards mildness and friendship as its general social objective. And the fundamental features of the grand unified society also create excellent qualifications for it. There is no fierce competition and no fanatical social emotion. People live in peace. Everyone looks friendly. And the entire society is very gentle. This point can't be realized in the national society because the country which is always in the status of competition and opposition may not advocate the mild living way and the society with rapidly developing technology also can't calm down human being's soul.

However, the circumstances in the grand unified society change completely. The conditions of restriction in technology, disappearance of countries and the reduction of disparity between the rich and the poor are all social basis for advocating mild and friendly life. Meanwhile, it is easy for people to realize the life objective of medium pay, medium gain, thrifty living and with surplus which also becomes the advantageous qualification for people's mild mentality and powerful guarantee of life hope.

What the mild and friendly life opposes is fanaticism and adventure and ceaseless competition and opposition. However, people neither have no pursuit nor no expectation towards life in peaceful life. Quietness and simplicity is a kind of pursuit. The affection towards the peaceful life in country is also a kind of pursuit. The objective of medium pay, medium gain, thrifty living and with surplus is a kind of expectation and hope over life. It is life pursuit to acquiring life pleasure and happiness with such kind of expectation. This kind of pursuit could be realized in an easiest atmosphere. And the life hope is also acquired in such kind of atmosphere.

(IV) Stable and Peaceful Life

The opposed factors will decrease greatly in the grand unified society due to the disappearance of countries and integration of nations and religions. The establishment of mild and friendly social objective and the advocacy of its supplementary series of moral values make the social conflicts relieved remarkably. Along with the general promotion of safe and mature technology in the global, the life concept advocated in the grand unified society could be realized easily. Therefore, people's criminal consciousness will decrease greatly. The grand unified society implements uniform administration in the global. The world regime considers the entire mankind's interests as the unique standard. The factors affecting the social stability will be released gradually. Then, the grand unified society will become a society with fewer wars and fewer crimes. People will live in a stable and peaceful environment which can't be realized in the national society.

One of the preconditions of achieving life happiness is the sense of security. It is impossible for a person to feel happy if he faces terrorism attack, slaughter, robbery and theft. The grand unified society brings human beings into a peaceful and stable society by eliminating the substantiality of various war and criminal factors. In such kind of society, people enjoy unprecedented sense of security.

(V) Healthy and Long Life

The unbalanced governing, great gap between the rich and the poor, frequent wars, terrorism attack and social crimes in the national society result in extreme difference in the healthy status of people and average lifetime as well among countries.

The grand unified society adopts policy of even-wealth and promotes currently safe and mature technology to every area in the world. Therefore, the society will eliminate poverty entirely. Meanwhile, along with the wide popularization and promotion of medical technology, the medical treatment level in every place will achieve a basically consistent degree in the grand unified society which is also the highest level under that condition.

In addition, the social phenomena of harming the mankind's health and life such as war and criminal slaughter will certainly decrease extremely in the grand unified society. All will be the hope and gospel of human health which will create corresponding conditions for the longevity of human beings.

It could be predicted that the average lifetime in the grand unified society will generally achieve and slightly surpass the original level in developed countries. That is because the developed countries also adopt the supreme medical treatment achievement at that time and the achievement could be promoted and applied generally in every place after the grand unification. At the same time, wars and criminal slaughters occur frequently in the national society while such factors endangering human life decreases greatly in the grand unified society. Due to the environment with high competition in the national society, people suffer from great mental pressure and have gloomy thought. But in the grand unified society, mild life and easiest and pleasant temper are all advantageous conditions for people's health and longevity.

(VI) Equal and Free Life

If there is no equality and freedom, there is no happiness for human beings. It is the view of happiness generally approved in the present world. Factually, equality and freedom is impossible to be realized widely in the national society. People need to enjoy subsistence right, property right and freedom right equally which can't be achieved in the national society. It is because the people in some countries live an affluent and stable life. They enjoy excellent social welfare and are able to execute their democratic rights fully in politics. But the

people in some other countries suffer from the ravage of wars and have rags on their back and little in their belly. Disease deprives of children's life constantly. Those autarchic tyrants implement fascism rule over the people. Therefore, the human beings are in the state of extreme inequality generally in the national society. Freedom and human rights are only endowed to some people.

The realization of the grand unified society creates excellent conditions for the solution of above mentioned problems. First of all, the grand unified society is a society that is beneficial to implement the policy of even-wealth. The phenomenon of extreme discrepancy in people's living level in different areas won't exist. Therefore, people's equality status in wealthy will be improved greatly.

Secondly, the foundation of the grand unified society is the result of conformance with the history trend and the selection after verifying the entirety interests of all mankind. The systems adopted by the society will certainly conform to the history trend. Therefore, the political system selected by the grand unified society will certainly be the best political system generally approved by all the human beings at the times. In terms of the mankind's political values currently, it is compulsory to adopt democratic political system for the grand unified society. Thus, all the human beings will enjoy equal political freedom and human rights in the uniform democratic regime.

Thirdly, based on the current mankind status, it designs the social policy which should be implemented in the grand unified society. The grand unified society should be a uniform and excellent welfare society. In the common welfare system, all the human beings can enjoy excellent living conditions equally. Therefore, the general equality and freedom brought by the grand unified society for human beings will be unprecedented in terms of the mankind entirety.

Section II: Evaluation on the Justice of Social System

Justice is the value of social system which originates from human beings' rational requirements on themselves. The demand is necessary for realizing health and sequent running of human society, realizing the principle of maximum value and making utmost people acquire utmost value realization.

If the grand unified society could realize the justice of social system or not is an index measuring the entirety value importance of the grand unified society in an indirect point of view. To evaluate the justice of social system is to analyze whether its system realizes equity and reasonableness based on the interests of human entirety. Next, we will carry out comprehensive and deep analysis and research on the social system of the grand unified society from the follow four aspects including entirety justice, group justice, individual justice and generation justice.

I. Entirety Justice

In national society, the competition and hostility between countries are always finally solved by the form wars. Therefore, the first consideration for the supreme power—the national regime to decide all the problems is how

to prevent from the aggression of other countries and how to invade other countries. It is same with how to keep away from the slaughter of congener and how to slaughter congener. Standing on the point of view of entirety justice, it is required the first guarantee of social system should be human beings' existence while the national society is exactly on the other way round. Therefore, the national society loses its rationality completely.

Just because of the above mentioned irrationality with the social system, we find that any most advanced technological achievement must be used for manufacturing weapons to kill the congener firstly in the national society rather than be used for benefiting human beings firstly.

The life-and-death competition and hostility between countries causes in that the country is impossible to think of the happiness feeling of the people more when it confirms its social system. The country considers firstly how the people acclimatize themselves to such competitive demand could be most advantageous for the country to get victory in the competition and hostility. Therefore, most of policies and systems established by the country are reasonless in safeguarding the sense of happiness of the human entirety.

We could find that every country devotes greatly to the military expenditure but carry out less assistance to the poverty-stricken population which obviously isn't beneficial for the realization of human beings' happiness value. We also notice that country always produces a kind of tense atmosphere with fierce competition to lead people for competition rather than consider how to create a kind of mild environment for people acquire sense of happiness totally. Consequently, people always feel exhausted and gloomy in such environment with fierce competition.

The establishment of all social systems in the grand unified society is quietly different from that in national society. Due to the uniqueness of the world regime and the only interest represented by the world regime is the interest of all human beings. Then, how to guarantee general existence security and happiness feeling of all human beings will definitely become the only considering direction of the world regime after losing the life-and-death competitive objects and immense competitive pressure between the supreme power bodies. The rationality of such though orientation of establishing social system is unparalleled by the national society in the aspect of guaranteeing the realization of all human beings' entirety value. All of this could represent the entirety justice of the grand unified society by comparing with the national society.

Actually, the grand unified society is much better than the national society in many respects of representing its entirety justice. For example:

A simple common sense tells us that the entirety interests of human beings are higher than national interests, ethical interests and religious interests. That is because any country, nation or religion is just a part of human beings and the global. It is a most fundamental principle that the part should be affiliated to the entirety. However, the realistic situation in the national society is the part interests are above the entirety interests. Because the supreme power in the world is country and the national regime stands in the point of view of the national interests, the national regime will abandon the interests of the human beings and maintain the national interests desperately when there is confliction between the entirety interests of all human beings and the national interests. The nation and religion also do in this way when they deal with their interests.

II. Group Justice

All men are created equal in despite of area, color, parentage or birth time. Everyone has equal human right. However, we find that the citizen in one country could earn 1000 dollars while the citizen in another country could only get 10 dollars after paying same labor. The citizen in one country could enjoy excellent social welfare while the citizen in another country could only beg for living after being old. The citizen in one country could live in a democratic, open and free political environment while the citizen in another country has no freedom in the rule of despot. Be the same as human beings, some races suffer from discrimination while some other races hold their head high. It is obviously unequal.

Since it is well known that all men are created equal and human rights are inherent, it can't just require the people from one country, one nation or one religion possess of equal human rights but all human beings should enjoy equal human rights. This is real and impartial equal human rights conforming to group justice. However, it is impossible to realize the goal in national society.

But the grand unified society realizes the integration of nation and religion. And country disappears in the world. People accept the governing of one regime, enjoy the welfare system of one society, possess of equal political, economic and cultural rights and also take equal corresponding liability and obligation in one society. Therefore, only the grand unified society could realize equal human rights of all human beings really.

Analyze group justice on the other hand: People can't seek for their existence by depriving other people's life and can't acquire their happiness by producing pain for other people. It is the recognized moral codes involving fundamental equity. But the mankind group always breaches the moral principle.

War is the most typical and cruel unjust behavior which seeks for its own existence by destroying other people. In the history of national society, the cruel phenomenon of "large country robs small country and small country plunders smaller country" has never been eliminated. The ravening way is war. The country still kills its people after robbing the wealth of the other country. The strong tyrannizes while the weak can only submit to humiliation. The phenomenon that disobeys the group justice is an important feature of the national society.

Terrorism attack also has similar unjust characteristic. Terrorism attack always repays its hatred on country, nation or religion to the civilian and deprives innocent people's lives with brutal means. It is also the typical feature of national country breaching he group justice seriously.

Certainly, the grand unified society also can't avoid war and terrorism attack completely. However, along with the disappearance of country and the integration between the nation and religion and measure such as establishing non-competition and even-wealth society, promoting mild and friendly value concepts, controlling the folk use of all destructive weapons uniformly, war and terrorism attack will decrease remarkably, especially mass slaughter, slaughter aiming at civilian and slaughter aiming at plunder in the grand unified society. Therefore, the grand unified society is apparently better than national society in the aspect of representing its group justice.

III. Individual Justice

As an individual, if he doesn't rob or steal other people's property, or he seeks for his existence and happiness not by depriving other people's existence and happiness, he doesn't breach public moral codes and lives in the society legally and harmoniously, it is certain that he is a man conforming to the requirement of justice principle.

In fact, any society couldn't realize that every people in the society could comply with the requirement of justice principle. There are people who disobey public morality and laws in any society. But comparing with the national society, the grand unified society could decrease the unjust behavior of individual to the minimum.

Indubitably speaking, the requirement on individual justice is what the national society emphasizes and publicizes. Because any country hopes its interior could realize harmony and stability and people could live and work in peace and contentment. However, basic characteristics of the national society decide that when the country advocates and maintains individual justice, it makes the individual justice weak and collapsed gradually on the other hand.

There are three kinds of powerful forces that slaughter the congener in the human society: country, nation and religion. These three kinds of forces coexist in the national society which makes the phenomenon of frequent occurrence of mass war and terrorism attack always exists in the human history. Bloody slaughter of plunder and revenge in which the strong bully the weak takes place constantly in the platform of human society. Everyone with thought and observation ability could feel all of this. In the human society, the behavior of every organization and group could inevitably influence and exert a subtle influence on every people living in the environment. The most powerful and influential behavior is the behavior of country, nation and religion which is also the example for human individual to be accustom to imitate and learn. However these three kinds of forces on the one hand gradually bring forward justice requirement to everyone, they do things disobeying the justice principle gradually on the other hand. It makes the country appears pale and faint when it publicizes justice principle to the people. And the country acquires limited effect.

Additionally, in order to be on a good wicket in the fierce competition and hostility, the country advocates moral value concepts such as brave, adventure, exploitation and innovation to the people. But those moral value concepts have negative function because when they exert their positive function, there are people who exert them reversely. People will be brave to plunder and take a risk to kill people and commit crimes with newest and most advanced method.

Due to the above mentioned reasons, the national society is certainly a society with high crime rate. Furthermore, the proportion of breaching the public morality is very high. It is the behavior of individual unjustness.

The grand unified society changes the condition in national society basically. Due to the disappearance of country and the integration of nation and religion, the most powerful resistant body in the national society vanishes. The world regime is the unique supreme power in the grand unified society. It only has interior affairs and doesn't have foreign affairs. Therefore, it has the qualification completely and brings forward corresponding justice principle just standing in the point of view of the human entirety interests. At the same time, it is qualified and capable to set an example to demonstrate the justice principle.

The grand unified society considers the establishment of even-wealth society with non-competition and maintaining the whole society with mild and friendly atmosphere as its construction goal which decreases the

hatred between people greatly. The grand unified society advocates the life concept such as medium pay, medium gain, thrifty living and with surplus. Moreover, it is easy to realize the goal along with the ordinary promotion and application of safe and mature technology. Because of small desire and high satisfaction on demand, people who do incorrect behavior will be fewer. All decide that the grand unified society would be a society with lower crime rate and people in the society will obey public morality codes. It shows that the grand unified society is much better than the national society from the point of view of individual justice.

IV. Generation Justice

Although the history for the existence of human beings on the earth should be much longer, the resources on the earth are limited. If we use up these resources today, our offspring won't live happily. If human beings destroy the earth badly, our offspring will feel difficult to clear up the awful mess. It will be an inhumane and disgraceful unjust behavior if people just think of themselves and neglect the offspring. However, we are now doing such kind of things which show our irresponsibility to our offspring. The excessive exploitation of non-renewable resources is causing the depletion of resources. The excessive land cultivation and excessive grazing in pastureland are resulting in land desertification. The destruction of forest is causing water and soil erosion and loss of biological diversity. The destruction on environment makes the earth become not suitable for human beings' existence. All of the above points endanger the interests of our offspring.

Factually, people realize these issues early. International organizations such as the UN also try to prevent the development of such behaviors by various methods. And many multilateral agreements are supported and subscribed by every country. But the actual implementing effects are quite different.

Fierce competition between countries and comparison effect caused by coexistence of many countries make every country is in the state of high-strung development pressure. It is such kind of pressure that leads to that the leader of any country is difficult to truly give attention to the offspring's interests during the development, especially the future interests of the entire mankind.

The world regime in the grand unified society represents the interests of the entire mankind. And as the unique supreme power without the pressure of competition and hostility, the world regime could completely plan the affairs of all human beings calmly and rationally in such noncompetitive environment. Additionally, together with the wide spread of currently safe and mature technology in the global and the promotion of even-wealth policy, the grand unified society could guarantee people could realize the even-wealth life in the condition of ample food and clothing. Therefore, the resource issue, environment issue and population issue could all be solved perfectly under the uniform rules of the world regime.

To sum up, the grand unified society has more excellent characteristics than the national society in realizing the values of human beings furthest through carrying out direct assessment on the realization degree of human beings' values and conclusion indirectly drawn by carrying out assessment on the justice of social system.

Indubitably speaking, due to the restriction on technology development in the grand unified society, people won't be able to acquire more relevant technological products and the creature comforts brought by it. This is the only factor which is disadvantageous for the realization of human values in the grand unified society. Other aspects are all advantageous for the realization of human values except this.

By comparison, creature comfort just belongs to the category of happiness value and not the entirety of happiness value. It is because the meaning of happiness is more plentiful that that of creature comfort. Furthermore, the creature comfort in the precondition of extreme disparity between the rich and the poor and great mental pressure isn't the general creature comfort of all human beings and can't bring general happiness to human beings as well. Nevertheless, by the restriction on technology development, human beings could avoid regular mass slaughter and prevent the danger of self-extinction especially. It is a matter concerning the existence of human beings, especially the entirety existence. During the comparison of existence value and happiness value, existence ranks firstly and happiness ranks the subordination. In addition, comparing the entirety existence and part happiness, the existence is more important. Just from this point, we bet that the grand unified society is much better than the national society.

However, the significance of the grand unified society in realization of human beings' values is more beyond this. It is incomparable by the national society in the aspects of being beneficial for human beings to acquire happy life and the realization of offspring's values. The clear conclusion could not only be drawn by analyzing the realization degree of human values in these two social morphologies but also by analyzing the justice of social system.

We could find out through careful analysis that the grand unified society is specially applicable for being a social morphology with the ideal of non-competition, non-hostility and even-wealth (The grand unified society is exactly unsuitable for the social morphology with the objective of competition, opposition and large gap between the rich and the poor) due to the uniqueness of its supreme power—world regime and the unique representation of the entire human beings. Moreover, the social morphology with the ideal of non-competition, non-hostility and even-wealth is extremely advantageous for the realization of series of values such as human existence and happiness. Therefore, the social morphology is especially advantageous for the realization of maximum value principle. Its characteristic of being advantageous for the realization of maximum value principle is more excellent than that of all the previous social morphologies and all the social morphologies we could imagine. Thus, the grand unified society is actually an indubitably ideal society.

We make sure that the original intention of "the human society must move towards the grand unification" is completely a compulsory selection in order to avoid the terrible fate of human extinction. However, we could find out that such kind of society being necessary for human existence is an ideal society which is most beneficial for the realization of human beings' values by a series of analysis. Therefore, a society selection which is compulsory for human beings exactly conforms to the society selection which is best for human beings.

Chapter XIII: Call for the Giant

It is clarified that only the realization of grand unification of all human beings could avoid mankind extinction. And also the realization of grand unification of all human beings could realize mankind's utmost values. Furthermore, there is not only the necessity for the realization of grand unification of all human beings but also the possibility for this.

Then, it needs the power of human beings to realize the revolution of human society. It is not only an unparalleled society revolution but also an immensely rational choice that the national society moves towards the grand unified society. The choice has unprecedented and profound significance. Facing such a great career, what power we should rely on to start up the wheel of history.

Section I: Responsibility of Ideologist and Politician

Before any great society revolution, a thought movement occurs as foreshadowing. It is a process for thought arousal. Because people who could really see the history direction clearly are not the vast public at first but are a few ideologists who have deep thought on the human history. They are people who know and feel the history first. When all other people are still lost, they have already realized that it is time for history transition and the transition could be come true through some efforts.

But only the power of ideologists can't drive the history. And what moves the history directly is the public. On the contrary, the people are late to catch on. They dive into their work and life every day and have few careful study and thought on the development direction of history. The people may have feeling occasionally which can't form system nor become the theory basis to guide their activities.

Once the theory arouses the people, the theory will become realistic power. The thought movement before the society revolution is the process in which the awakening ideologists' mature thought and theory are publicized and transmitted widely. When the people accept and agree with the thought and determine to strive for it, a torrent of water which will change the history forms. New history will be created by the strength of people.

If the people are in a state of disunity that everyone goes his own way, they can't promote the history. It is requested to unify with a single will and move towards a same goal if people want to form the power of driving the history. People advance and retreat in order according to the order of flag. And people will break away the obstacle of old world and create an entirely new epoch. Then the commander holding the flag is the political leader. Political leader is the organizer and leader of movement. The people won't form the resultant force driving the history without the leaders' efforts. Therefore, after the completion of ideologists' elementary awakening tasks, the political leaders' effect ascends to dominant position. Furthermore, the politicians are not only the leaders of people but also are the awakened people of thought.

We could find out clearly the ideologists and politicians' great role during the development of world history. We know that the feudal theocracy ruled Europe for a thousand years in middle ages. In the rule of religion theocracy, there was no creativity in the world. And people were in a fatuous state. The Renaissance happened

in the 14th Century took the revival of classical cultures as call and opportunity and started up a grand thought emancipation movement which was anti-feudal and anti-church theocracy with a lasting period of more than 200 years. The center of Renaissance was Italy. And the movement was expanded to other European countries such as Britain, France, Spain and Germany and produced profound influence. It was the thought emancipation movement promoted by the Renaissance that broke Europe away from the dark rule of feudal theocracy and guided the world to walk out the middle ages.

The Enlightenment Movement happened in the 17th and 18th Century was the second thought emancipation movement after the Renaissance in modern history. The center of the Enlightenment Movement was France. And the movement was extended to other areas in Europe and America and the whole world. The thought of freedom, equality, democracy and legal system publicized by the Enlightenment Movement drove the revolutionary movements in Europe and America directly and played huge effect on the American Revolution, French Revolution and democratic revolutions happened in all the countries in Europe. We could say that there was no early modern and modern democratic country if there was no Enlightenment Movement with a lasting period of over 100 years.

It is well known that the first socialist country was founded along with the success of the Russian October Revolution in 1917. Since then, the socialism movement influenced half of the world and many countries established socialism regime one after another. However, the success of the October Revolution wasn't accidental. The success was the result of long term prevalence of socialism thought and promotion of workers' movements. The thought emancipation movement could be tracked back to the Utopian Socialism occurred in the 16th Century. In the 19th Century, Marx and F.Friedrich Engels established Marxism Theory after they summarized the experiences of international workers' movements and summed up and refined the German classical philosophy, British classical political economy and French Utopian Socialism. The wide prevalence of Marxism was the precondition and basis for the success of socialism revolution.

There were many preeminent ideologists during every thought emancipation movement. For example, Dante Alighieri, Leonardo da vinci, Michelangelo, Raffaello Sanzio, William Shakesspeare and Miguel de Cervantes Saavedra during the Renaissance, Hugo Grotius, Thomas Hobbes, Mickey Rourke, CharlesLouis Montesquie, Francois Marie Voltaire and Jean-Jacques Rousseau during the Enlightenment Movement and Marx and F.Friedrich Engels during the communism movement. It was exactly because their thoughts made powerful prelude for the future history development, the later social revolutions happened.

The same was true that many preeminent political leaders were emerged certainly during the important turning period in the history. For example, Washington in American Revolution and V.Lenin in Russian Socialism Revolution guided their people to realize ideologists' dream and promoted the development of the history.

The progress of history was depended on great ideologists and politicians. An ideologist or politician with rationality and conscience should bear the historical responsibility bravely with no qualm and march forward courageously.

It is an important historical turning from the national society to the grand unified society in the human society. The changes occurred by this transition are greater than any time in the past, the same is true of its immense significance. As concerning the social morphology, all the previous revolutions changed one national form into another and never changed the essential content such as the social morphology in the country. Additionally, all the previous historical revolutions considered happiness which was the subject within the values scope as a flag

to call for and goal to realize. For example, the goal of the Renaissance was to overthrow the rule of feudal theocracy and return freedom to the people and make people be real man. The delegate of feudal theocracy rule was church. To overthrow the rule of feudal theocracy was to deprive church's right of befooling and governing the people in the name of god. It was for the sake of seeking for freedom for the people. Freedom is just within the scope of happiness value which is only the part of happiness. Therefore, the process of seeking for freedom is the process of seeking for happiness. Reversely, the deprivation of church's sovereign power means the deprivation of the sovereign power of feudal church's rulers. The sovereign power also belongs to the scope of happiness value and a part of happiness. The deprivation of their sovereign power is undoubtedly depriving a part of their happiness values. Therefore, it means that the ruled people's request on happiness resists the detainment on fewer rulers' detainment of happiness. The result is exchange happiness values with happiness values.

Here is another example. The Enlightenment Movement put forward the thought of freedom, equality, democracy and legal system. Its aim is to overthrow the rule of feudal autocratic monarchy and found a country with democracy and human rights. And it would seek for political equality and free human rights for the people. The same is true that human rights can only be brought into the scope of happiness values. When the people acquire human rights, the emperor who loses autocratic sovereign power loses his privilege. The privilege also belongs to the scope of happiness values. Therefore, the aim of the Enlightenment Movement is also to capture a part of happiness values of the feudal emperor to acquire the other part of happiness values of the people.

Another example is easily gotten: The communism movement considers establishing the socialist country with the dictatorship of the proletariat as the aim. That is to capture the regime of bourgeois and establish the regime of proletariat. If the regime is mastered by the bourgeois, the regime will serve for the bourgeois and seek for interests for the bourgeois. Thus, the regime is more advantageous for the bourgeois to acquire happiness values. But after the proletariat seizes the regime, the regime mastered by the proletariat will definitely seek for interests for the proletariat. The proletariat aims to acquire happiness values. Therefore, the aim of the communism movement is to capture a part of happiness values of the bourgeois to acquire a part of happiness values of the proletariat.

We could find out clearly from the above mentioned points that all the social revolutions in human history are to capture a part of happiness values of the ruler to acquire a part of happiness values of the ruled or to capture some happiness values of these people to acquire some happiness values of those people. Then, there are mass wars and a series of bloody slaughters along with such kind of social revolutions. Because when they exchange the happiness of a part of people with the happiness of other part of people, these two groups of people must have acute and life and death struggle. The part of happiness values acquired by any party means the part of happiness values lost by the other party.

The social revolution pursued by the grand unification career has essential difference from all the previous social revolutions. Perishing the country and founding the grand unified society are for the sake of human beings' entirety existence. That means the society is to avoid human beings from extinction rather than the happiness of some people. (In fact, the grand unified society could completely and only it could bring in general happiness for the human beings which can't be brought in by the national society. But the happiness is not the original intention of the grand unification career but just the by-products of the career). The values balance order of the grand unification career is to satisfy human beings' happiness values as much as possible in the precondition of guaranteeing human's existence. However, existence value is greater than the happiness value among the values aspiration of human beings. Secondly, the grand unification career concentrates on the

entirety human beings rather than a certain part. And it never exchanges the values of some people for the values of another people. It is a simple truth that the entirety is more important than the part.

It is certain that the visual interests of a part of people will be damaged in the grand unification career. For example, a part of people may lose the power of governing other people. A part of people may lose their specifically excellent ground. And another part of people may suffer decrease of living level. But all the lost rights can only be brought into the scope of happiness values. They obtain the existence of human beings. Such existence may not mean the existence of himself but his offspring certainly. If we exchange existence with happiness, existence is more important. If we exchange the entirety existence with part happiness, the former is more important than the latter.

Because the grand unification career is the career of the whole mankind and the career which has the goal of guaranteeing human beings' entirety existence, it is completely probably advocate and establish rational moral values to relieve the colliding emotion in people's mind when the career has conflict with the local happiness. Therefore, it could realize the great goal of grand unification of all human beings with peaceful methods.

Then, in order to realize the goal, we must promote a great awakening movement firstly. We will change the previous inherent world view and value system thoroughly and make people be willing to accept the consolidation of countries and face the incoming of the grand unified society by the awakening movement.

The awakening movement should not only make people know the great significance of realization of world unification in avoidance of entirety destruction but also change the long term inherent concept from the below points: Replace the national interests concept by human interests concept; Replace the adoration on technology by the danger cognition of technology; Replace the discrimination concept of human groups by human's general equality thought; Replace the hedonism of human beings by the thought of the entirety existence of human beings is above all. Meanwhile, we should publicize the important significance of the grand unified society in the realization of human beings' values vigorously.

Then, we can't ask the people to maintain rational at the important turning moment in the history. But we are reasonable to require politicians and ideologists with conscience keep rationality. Before the start-up of a great social revolution, the ideologists must influence all human beings with their rational thought. It is the process for thought awakening. The politicians must realize the dreams of ideologists with their leadership talents and guide people to realize historical transition finally. It is their duty-bound obligations.

Section II: Role of the Giant

People who make vigorous efforts to turn the situation at the important turning moment in the history could be called as great man. Great men's achievements would be splendid in the history and handed down for thousands of years. Besides his personal talents and personality power, the naissance of great man is accompanied with important historical events, just as a Chinese saying goes "Times makes heroes".

Great man never comes out in the times without historical billows. That is because how he shows his preeminence if he doesn't have opportunity to make vigorous efforts to turn the situation. For example, if there

was no Second World War and extremely valiant and guileful Adolf Hitler, there will be no such great men like Franklin Roosevelt, Joseph Vissarrionovich Stalin and Winston Leonard Spencer Churchill. If they were just in a historical period without important events, they probably could only fulfill the normal responsibilities of an ordinary national leader and live their political life trivially and would be faceless in the history. However they caught up with historically great changes and came across powerful opponents. After experiencing life and death tough test, they led their people obtaining the success of anti-aggressive war and changed the world history. Therefore, they got success with their career. And their great reputation left a great record in the history.

What kind of people could be called as giants? Literally speaking, the giants must be greater than the great men. They must accomplish incredible and brilliant achievements that were unparalleled in the history. Reviewing the world history, how many people there could be called as giants?!

After selecting from some acknowledged preeminent political leaders in the world history, there were some remarkable persons including Alexander, Asoka, Emperor Qin Shihuang, Emperor Hanwu, Caesar, Mohammed, Genghis Khan, Peter the Great, Washington, V.Lenin, Franklin Roosevelt, Joseph Vissarrionovich Stalin and Winston Leonard Spencer Churchill. They were recognized to be people who accomplished great achievements because their behavior played tremendous effects on the history. Their accomplishments could generally be divided into the following categories:

1. Large-scaled subjection and less defeated more and ruled unprecedented territory. Alexander and Genghis Khan belonged to this kind of great men.

2. They carried out effective governing on politics, economy and military and reforms in domestic and started up mass subjection and occupancy externally. They established basis for their offspring's stable administration and dilation, for example Caesar and Peter the Great.

3. Unify a divisive nation or large natural territory with path-breaking significance, such as Asoka, Emperor Qin Shihuang and Mohammed.

4. Establish a country with entirely new system which had a profound influence on the future, such as Washington and V.Lenin.

5. Defeat strong invaders and maintain the stability of the country or world, such as Emperor Hanwu and great men created in the Second World War including Franklin Roosevelt, Joseph Vissarrionovich Stalin and Winston Leonard Spencer Churchill.

Thus it can be seen that there were three features with the achievements of the most outstanding political leaders in human history till now:

Firstly, all their achievements were concentrated on group interests, such as countries, nations and religions. The most common form was generally the national interests. Just as in the Second World War, if America which was far away from the European and Asian war centers didn't feel threats to its national interests, Franklin Roosevelt wouldn't dispatch troops. Alexander and Genghis Khan's ceaseless subjection was to found an incredibly powerful country. Washington and V.Lenin wanted to set up a country with optimal political system. Asoka, Emperor Qin Shihuang, Emperor Hanwu, Caesar, Mohammed and Peter the Great were all for

the sake of some group's interests. Even if some great men in the history gained the achievements for the sake of their individual ambitions, the targets finally belonged to group interests.

Secondly, all their achievements were concentrated on the subject of happiness. Take the outstanding persons with feature of expansion and subjection in the history for example, as political leaders; they extended their ruling scope mainly for the sake of satisfying their subjection desire rather than their existence. Because the way they existed wasn't a problem for them as the ruler of a powerful country. They were willing to expand their ruling area or satisfy their subjection desire which were a kind happiness pursuit for them.

Concerned the preeminent political leaders that resisted the aggressive ears, they didn't wish that people in his country or in other countries suffered from oppression and exploitation if they considered people's interests as starting point. They were not willing to be conquered people. The so-called under compression and exploitation or being conquered people all belonged to the scope of happiness values. And the individual desires of these leaders belonged to the scope of happiness values certainly. The accomplished achievements concentrating on the purpose of establishing an entirely new political system had a subject of happiness because an excellent political system was relevant to the content of people's happiness.

Thirdly, the achievements of all preeminent politicians couldn't be separated from wars. Furthermore, the aims of their activities were all exchanging some happiness values of one party for some happiness values of the other party. It was because of the features of the national society. When a country grows strong, it would like to conquer externally. Then war breaks out. When a country suffers from the invasion of formidable enemy, it will adopt war to carry out forceful counteraction. When a country wants to found a new political system, it should deprive the rule right and happiness of some other people. And it will adopt war. There are mass personnel casualties along with wars. Consequently, it costs the deprivation of many people's existence rights to accomplish the achievements of preeminent great men.

Meanwhile, the result of war is to exchange the happiness of some people for the happiness of other people certainly. That is because any party is just for the sake of acquiring some happiness values when it starts up war. When a party acquires the part of happiness values, it means the other party will lose the corresponding part of happiness values.

People always say it is all for the sake of nation's existence. The saying isn't exact really. Generally speaking, the nation in which the people achieving excellent accomplishments belong to always is powerful nation. The nation couldn't suffer from the threat of slaughter of the entire nation or most of people. Even if it is occupied and conquered by the invader, it just means the nation will be enslaved by foreign nations but not race extinction concerning existence. The situation involving race extinction just aims at some smaller nations in which historical giants won't present. There were exactly only 1,000,000 people in Genghis Khan's Mongolia Nation. But his subjection was unprecedented. When he conquered other nations, he didn't suffer from the threat of race existence. That is to say he carried out subjection not because the existence of his nation suffered from threat but because of some satisfaction.

The transition of national society to the grand unified society is unprecedented huge social revolution in human history. The huge social revolution requires the leadership and guidance of historical giants. And there must be giants that lead and guide the development of human history which is a necessary phenomenon in any great history turning. Only the combination of history giants and history laws could produce immense historical transition. The two aspects are both indispensable.

Then what kind of history giants will present during the transition process of national society to the grand unified society. If we carry out corresponding narration by combining the features of this revolution and the above analysis, we could find out clearly that the historical transition of national society to the grand unified society has essentially different features with those of all the previous historical revolutions.

Firstly, all the past historical revolutions concentrated on the group interests such as country, nation and religion. But the historical revolution concentrates on the human beings' entirety interests. Its interests scope is unparalleled by a group or some groups.

Secondly, all the past revolutions concentrated on the value target of happiness which was the happiness values within the group scope. But the revolution concentrates on the existence value which is the entirety existence of the human beings. Among the values of human beings, the existence value is higher than happiness value. Comparing with the happiness within the group scope, the entirety existence of human beings has the weight of absolute advantage.

Thirdly, all the past great revolutions were realized in slaughtering form of war. And no matter what the war is just or not, it all indicated to exchange a part of happiness values of some people for a part of happiness values of other people. But the revolution considers human beings' entirety existence as its goal and will realize the goal by using peaceful way. Furthermore, although the original intention of realizing the grand unification is for the sake of human existence, it can't be achieved by the national country in the aspect of full realization of human's happiness values and other values in the grand unified society. In fact, the grand unified society is an ideal society morphology which conforms to the principle of maximum values.

Because of the above mentioned reasons, we are completely sure that the replacement of national society by the grand unified society has greatest significance on the entire human beings than any historical turning in human history. The transition of national society to the grand unified society will probably adopt the peaceful way to realize which strengthens the entirety justice of the transition.

If there were great men produced in human history, this historical transition will produce giants certainly. If there were giants produced in human history, this historical transition will produce unprecedented giants certainly. Concretely comparing, if the record-breaking Second World War creates great men such as Franklin Roosevelt, Joseph Vissarrionovich Stalin and Winston Leonard Spencer Churchill, the great men created in this grand historical revolution will realize greater historical achievements than the former. And their achievements' weight is even incomparable. Therefore, the great significance of the transition of national society to the grand unified society is incomparable by any historical revolution. The distance is difficult to be expressed with words.

Although country is the supreme power in national society, not all of the countries have the capability of mastering the world. Only fewer large countries could promote the history. The grand unification career undoubtedly relies on the strength promotion of large countries, especially the power of political leaders in large countries.

It is well known that the threat on human beings' entirety existence brought by technology development increases with the time goes. The urgency of the transition of national society to the grand unified society becomes more and more obvious. The realization of early transition could relieve the existence threat for human beings greatly. In the situation that we possess of all the objective situations driving the grand

unification process, it is time for the start-up of the wheel of history. We don't expect that every people have rationality, consciousness and capability. But we could repose our hope to the leaders of large countries. The human beings require their salvation. And their wisdom is sufficient for them make intelligent choice for themselves. Their uniform actions could master the history process to a large extent.

It is the times which could produce unprecedented giant. Such a great career requires the drive of giant. The political leaders of large countries who are evasive and disregardful at the historically key moment will be the sinner in the history. If the leaders could come out boldly and bear the heavy burden of the history, their unprecedented achievements in rescuing human beings will be recorded in the history. And our offspring will remember their merits and virtues forever.

For the sake of human beings' circle of life and our offspring's happiness and peace, the history calls for the giant.